

The ideal population can be estimated only by knowing the current population and its rate of change. Almost all the data on the status of current stocks have come from whaling ships which have been providing information on the basis of catch per unit effort. This works on the principle

outcome of the recent meeting as much as might have been expected. In spite of Beddington and Cooke's new evidence on sperm whales, which led the scientific committee to recommend that they should not be killed in the North Pacific, a quota of 890 was awarded to Japan. Some

Irradiated Samples of Austenitic Steels". Before his dismissal from the institute, this research had been cleared for open publication. Kislik managed to send the paper by hand to the United States, where in 1977 it appeared in the *Journal of Nuclear Materials*.

Shortly afterwards, an article appeared in the local evening paper *Vechernyi Kiev*, accusing Kislik of being a foreign agent and of smuggling out nuclear secrets. At the end of 1979, the accusation was revived, and he was informed by the Kiev Public Prosecutor, Ignatiev, that a file had been opened against him under Article 136 of the Ukrainian Penal Code "Violation of Authors' and Inventors' Rights" — in other words, plagiarism.

Since October 1979, Jewish emigration from Kiev has virtually ceased and routine police harassment of long-term refuseniks has intensified. In April 1980, Kislik was prevented from travelling to Moscow for the refuseniks' International Symposium on Collective Phenomena. One of the western visitors to the symposium, Professor Paul Kessler of the Collège de France, later

IWC whaling quotas					
	1980/81	1981/82		1980/81	1981/82
<i>North Atlantic</i>			<i>S. Hemisphere</i>		
Sperm	273	130	Bryde's	264	264
Minke	2,543	2,554	Sperm	580	300
Sei	100	100	Minke	8,102	6,718
Fin	624	701	<i>Others</i>		
<i>North Pacific</i>			Bowhead	18	17
Bryde's	479	529	Humpback	10	10
Sperm	1,350	890	Totals	15,883	13,753
Minke	1,361	1,361			
Gray	179	179			

that the difficulty of finding and catching a whale is inversely proportional to the total number of whales available. Changes from year to year in making a catch will reflect change in the population size and hence allow estimates of ideal population to be made.

Catch per unit effort, however, is not a reliable measurement on which to base calculations of population because it varies considerably with different whaling techniques. When allowances for handling time were recently taken into account, it was found that the depletion of population was being seriously underestimated.

One new way of modelling populations which overcomes some of the difficulties with catch per unit effort was proposed by John Beddington and J G Cooke of the University of York at the recent scientific committee meeting. It has already been applied to sperm whale stocks in the North Pacific with some success. The Beddington and Cooke model uses the fact that whaling distorts the distribution of length in populations as the basis for calculations of current and ideal populations (whaling ships tend to catch big animals leaving smaller ones behind). By examining the current length distribution of the catch and the change over recent years and by knowing the size of the catch, the current population and hence the ideal population can be calculated. This technique works well for species of whale, such as the sperm whale, which vary considerably in length.

One difficulty with the management procedure is that it only works well for species which have already been depleted where the catch is a fair proportion of the current population. The minke whale, for example, the most heavily exploited species, cannot be managed easily because its numbers are actually on the increase. Sperm whales also present problems, because unlike all other species, they are polygamous. Only large males over 25 years of age can hold harems so the damage to the sperm whale population of taking only the largest whales could be greater than at first suspected.

The deliberations of the scientific committee probably did not affect the

concession to the scientific evidence was made, however, by banning the killing of female sperm whales and all males over 45 feet long. Two other seriously endangered species also failed to get total protection: the humpback whale of the North Atlantic — Eskimos in Greenland will be able to kill 10 next year — and the bowhead whale in the Bering sea where a small quota has been set for the benefit of Eskimos in Alaska.

Judy Redfearn

More Soviet psychiatry

Physicist held

Vladimir Kislik, nuclear physicist, long-term refusenik and member of the European Physical Society, has been committed to a Kiev mental ward, apparently to prevent him from meeting western visitors to the city. Although this means of repression has of recent years been used against a number of political dissidents, including geneticist Zhores Medvedev and mathematician Leonid Plyushch, this is the first time that it has been used against a Soviet scientist who simply wishes to emigrate to Israel.

Kislik applied for an exit visa in 1972, but was refused on the grounds of access to state secrets while at his previous job at the Chelyabinsk Nuclear Reactor Plant. Following his application, he was dismissed from his research post at the Institute of Physics of the Ukrainian Academy of Sciences and since then has had to work as a bus-ticket seller, nightwatchman and the like. He attempted, however, to keep up his scientific reading and to organize a scientific seminar for other refuseniks in his own home. In June 1976, however, he was beaten up by security police and threatened that he must close his seminar — or else face a criminal charge of black market activities. Meanwhile his name "disappeared" from the Soviet bibliographies and from references to the papers which he had published in his professional capacity.

He did, however, have one unpublished paper on the "Absorption of Helium by



visited Kislik in Kiev. After the visit, Professor Kessler reports, he was attacked by four strangers in plain clothes who gave him an "intentionally not too heavy" beating, which, he believes, was meant simply to intimidate him. A few weeks later, Kislik managed to make contact with some American geneticists who were attending a meeting in Kiev — an event which, some of his friends believe, was not unconnected with the latest harassment.

On 25 June, Kislik was picked up in the street and taken to the police station for an identity parade in connection with an alleged theft. On 4 July, he was arrested for alleged hooliganism and given 15 days detention. When this term was up, and he was not released, he threatened to go on hunger strike. The next day, 19 July, he was transferred to a psychiatric ward in the Pavlov hospital. Ironically, and to a certain extent in support of Soviet claims that Jews (as opposed to "Zionists") suffer no discrimination in the Soviet Union, the doctor in charge of the case is a certain Naum Lifshits.

Vera Rich