

Evaluation of the accuracy of reported noon positions from Soviet whaling factory ships

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ABSTRACT

It has generally been assumed that the noon positions reported to the International Whaling Commission (IWC) by Soviet factory ships were accurate, despite that nation's extensive falsification of catch records. In this paper, Soviet whaling industry reports are used to investigate this issue. Comparison of available track data from the reports with information submitted to the IWC through the BIWS shows that the officially reported data provide a reasonably accurate idea of general whaling effort, with minor discrepancies attributable to differences in precision or to geo-referencing. However, the Soviet report tracks sometimes include unreported excursions for the purpose of illegal whaling, and these were omitted from the data sent to the IWC.

KEYWORDS: WHALING–MODERN; USSR; PACIFIC OCEAN; SOUTHERN HEMISPHERE

INTRODUCTION

As is now well established, extensive illegal whaling by the USSR began after World War II and continued for some thirty years (Clapham and Ivashchenko, 2009; Yablokov, 1994). The USSR's numerous violations of whaling regulations included the taking of protected species, under-sized whales, lactating females and calves (Ivashchenko *et al.*, 2011). Ivashchenko and Clapham (2014) estimate that, globally, the Soviet whalers killed approximately 534,119 whales, of which 178,726 were not reported to the IWC.

During this period, the USSR routinely submitted falsified data to the International Whaling Commission (IWC) via the Bureau of International Whaling Statistics (BIWS); they also falsified biological data such as those on sex and length (notably for sperm whales, *Physeter macrocephalus*; Ivashchenko *et al.*, 2013). Using accurate data from formerly secret whaling industry reports, the Soviet catch record has now been largely corrected for both the Southern Hemisphere and the North Pacific (Ivashchenko *et al.*, 2013; Yablokov, 1995; Yablokov *et al.*, 1998). The corrected data are now incorporated into the IWC's catch database (Allison, 2016).

However, a question has remained regarding whether Soviet factory ship noon positions, as reported to the IWC, were also inaccurate. Interviews with former whale biologists who worked on the Soviet factory fleets indicated that these positions were probably generally correct, and Yablokov (1995) provided details of tracks of Soviet factory ships operating in the Southern Hemisphere for certain years. Here, true noon position data from selected Soviet whaling industry reports are compared with locations reported to IWC. The comparisons show that, while the reported positions were largely accurate as far as they went, the USSR failed to include additional excursions made for the purpose of making illegal catches in other areas. They also took additional catches *en route* to and from the Antarctic whaling grounds.

METHODS AND MATERIALS

It is not the intention of this paper to examine every track of every factory fleet, but rather to use some examples from selected fleets and years to assess the general reliability of the data submitted to IWC. In this regard, Yablokov (1995) provided true versus submitted track data for Antarctic whaling operations as a series of paired maps for each whaling season. Despite the inevitably coarse resolution of these maps, they revealed omissions from the officially reported data. There have been no comparisons of track data from Soviet whaling operations in the North Pacific.

Ivashchenko *et al.* (2011; 2013) analysed data from formerly secret Soviet whaling industry scientific, production and inspectors' reports (copies of which were found in Russian archives) to correct catch totals for the North Pacific, and to examine the operational details and economic context of Soviet whaling generally. A partial list of these reports is given in Ivashchenko *et al.* (2013; table 3); however, that listing relates only to the North Pacific, and a few other reports are now available to us which provide information on selected Antarctic operations.

For the most part, only scientific and inspectors' reports contain data on the noon positions of the factory ships concerned: not all of these reports have this information which, when it exists, is in the form of a fold-out map. These maps were scanned and saved as JPEG files, then imported into ArcMap as a raster data set layer and saved as a geo-referenced map. The resulting tracks were compared to information on noon positions as reported by the USSR to the IWC, as contained in the IWC database (Allison, 2016).

A list of the track data referred to in this report, by factory fleet and year, is given in Table 1.

RESULTS AND DISCUSSION

The USSR operated a total of seven whaling factory fleets during the period of illegal catches, from 1948 to 1979 (Ivashchenko *et al.*, 2011). Detailed track data are available for a total of 39 whaling seasons; of these, 15 were from the

Table 1

List of whaling seasons for which data exist to compare the reliability of noon positions reported by Soviet factory ships. 'Antarctic' means whaling seasons where the destination was the Antarctic, though in some cases catches were also made to or from the Southern Ocean whaling grounds, sometimes including north of the equator.

Fleet	Season/ground	Source
<i>Slava</i>	1957/58 Antarctic	Yablokov (1995, pp.25-26)
	1963/64 Antarctic	Yablokov (1995, pp.38-39)
	1968 N Pacific	Vladimirov <i>et al.</i> (1968)
<i>Aleut</i>	1969 N Pacific	Vladimirov <i>et al.</i> (1969)
	1962 N Pacific	Anonymous (1962)
<i>Sovetskaya Ukraina</i>	1963/64 Antarctic	Yablokov (1995, pp.73-74)
	1965/66 Antarctic	Yablokov (1995, pp.93-94)
	1966/67 Antarctic	Yablokov (1995, pp.98-99)
<i>Yuri Dolgorukiy</i>	1960/61 Antarctic	Yablokov (1995, pp.149-150)
	1961/62 Antarctic	Yablokov (1995, pp.154-155)
	1962/63 Antarctic	Yablokov (1995, pp.164-165)
	1963/64 Antarctic	Yablokov (1995, pp.173-174)
	1964/65 Antarctic	Yablokov (1995, pp.183-184)
	1965/66 Antarctic	Yablokov (1995, pp.192-193)
	1966/67 Antarctic	Yablokov (1995, pp.200-201)
	1967/68 Antarctic	Yablokov (1995, pp.209-210)
	1968-69 Antarctic	Yablokov (1995, pp.217-218)
	1970/71 Antarctic	Yablokov (1995, pp.225-226)
<i>Sovetskaya Rossiya</i>	1971/72 Antarctic	Yablokov (1995, pp.233-234)
	1965 N Pacific	Fig. 1, this paper
	1962/63 Antarctic	Fig. 4, this paper
	1964/65 Antarctic	Fig. 5, this paper
	1965/66 Antarctic	Figs 6 and 7ab, this paper
	1966/67 Antarctic	Yablokov (1995, pp.260-261)
	1967/68 Antarctic	Yablokov (1995, pp.269-270)
<i>Dal'ny Vostok</i>	1969/70 Antarctic	Yablokov (1995, pp.280-281)
	1970/71 Antarctic	Yablokov (1995, pp.287-288)
	1971/72 Antarctic	Yablokov (1995, pp.293-294)
	1964 N Pacific	Anonymous (1964, p.80)
	1965 N Pacific	Anonymous (1965, p.66)
	1967 N Pacific	Fig. 2, this paper
<i>Vladivostok</i>	1968 N Pacific	Vladimirov <i>et al.</i> (1968)
	1969 N Pacific	Vladimirov <i>et al.</i> (1969)
	1970 N Pacific	Fig. 3a, this paper
	1971 N Pacific	Berzin <i>et al.</i> (1971)
	1968 N Pacific	Reznichenko and Selyavko (1968)
	1969 N Pacific	Reznichenko and Selyavko (1969)
	1970 N Pacific	Privalikhin <i>et al.</i> (1970)
	1971 N Pacific	Berzin <i>et al.</i> (1971)

North Pacific, and 24 from the Antarctic. For future reference, these are listed in Table 1. Track data for *Aleut*, the seventh (and oldest) of the Soviet fleets, were found for only one whaling season (1962).

Overall, comparisons of true noon position data with those officially reported to the IWC show that the official data (as far as they went) were in most cases largely accurate, and serve as a reasonably reliable general guide to Soviet whaling effort. However, the reported data were sometimes significantly incomplete, and in particular omitted major sections of track involving excursions by a particular fleet into other areas. These almost certainly represent attempts to avoid suspicion of illegal catches, since many of the omissions involved areas in which catches were prohibited, or which were inhabited largely by protected species. There are numerous examples of this in the paired tracks shown in Yablokov (1995), referenced in Table 1, and additional examples are given below.

Figs 1–5 show examples of reported versus actual track data. Where the tracks are similar, often small differences in locations are likely the result of two factors. Southern

Hemisphere locations in the IWC database prior to 1972 are given to the nearest degree, whereas the Soviet industry reports usually provide more precise positions. North Pacific data in the IWC database include degrees and minutes. Second, small differences inevitably result from the georeferencing process. Consequently, minor differences between tracks are unlikely to be significant in most cases.

However, some of the tracks derived from the Soviet reports include differences which are more difficult to explain, as well as excursions to other areas which are omitted from the officially reported data (it is also known that Soviet catcher boats on occasions worked a long way from the factory ships to which the noon positions refer). Examples are described below.

Reported versus actual tracks for *Sovetskaya Rossiya* in the North Pacific in 1965 (Fig. 1) largely agree, with the exception of an unexplained difference in the eastern Gulf of Alaska. The IWC track shows the fleet heading towards the coast, whereas the track from the fleet scientific report lacks this diversion. We have no explanation for the difference, which is not likely due to the minor factors noted above. Although the tracks largely agree for this whaling operation, it is known from the industry reports that *Sovetskaya Rossiya* spent much of this period illegally whaling. These operations included catches of protected species such as North Pacific right whales (*Eubalaena japonica*), as well as baleen whales generally. Antarctic fleets working in the North Pacific were permitted to hunt only sperm whales. *Sovetskaya Rossiya* caught numerous animals of this species that were below the minimum legal length of 11.6m.

In Fig. 2, the tracks for the *Dal'ny Vostok* fleet in 1967 are very similar except for a loop into the central Okhotsk Sea off the eastern coast of Sakhalin Island. Reporting of this excursion might well have raised suspicions, since the region concerned is inhabited largely by gray whales (*Eschrichtius robustus*) and North Pacific right whales, both of which were protected under IWC regulations; indeed, 126 right whales were taken in the area on that expedition (Ivashchenko and Clapham, 2012). The IWC data also show a loop, but in this case it is farther offshore in the central Okhotsk Sea where fin whales (a legally catchable species) were found.

Another case is evident in Fig. 3(a), where the true track shows that the fleet actually worked much farther to the south than they reported to the IWC. In this case, the factory fleet is known to have been illegally taking undersized male and female sperm whales in lower latitudes; reporting the true position might have raised suspicions about the nature of what was being caught there. Reported versus actual (reconstructed) catches of sperm whales associated with these tracks in 1970 are shown in Fig. 3(b).

Such obvious omissions from the reported data indicate excursions for illegal whaling, but it is important to recognise that these omissions occurred only when the fleet was working in areas that might have led to questions regarding the catch. When the fleets were working in areas where legally catchable species could be found, they could whale there illegally without the need to misreport fleet positions. An example is *Sovetskaya Rossiya* in the Gulf of Alaska (Fig. 1, described above).

In Fig. 4, the actual track of *Sovetskaya Rossiya* during the 1962/63 Antarctic whaling season shows two significant deviations from the data reported to IWC. One is a movement to the west of the Antarctic Peninsula, which we are unable to explain. The other is a series of excursions in offshore waters east of Argentina, during which the factory fleet is known to have caught sperm whales. Why the two tracks are different is unclear since the areas in which the fleet actually operated would not have raised any suspicions, and while the catches undoubtedly involved undersized sperm whales, the species itself was legally catchable. An additional confusion arises from the fact that the fleet's production report for the 1962/63 season also gives track data, and these are more similar to those reported to the IWC.

The reported versus actual tracks of *Sovetskaya Rossiya* in 1964/65 (Fig. 5) are largely similar, although the latter shows a significant extension around latitude 35°S towards southwestern Australia. This was likely for the purpose of illegal whaling (whaling for baleen whales was not permitted north of 40°S), but we are unable to determine the species or extent of any catches in this area. Also, a loop south of 60°S and between 80° and 100°E is farther to the south of the IWC track; it is not known if this reflects any real difference in whaling effort or is just an insignificant difference in the precision of what appears in the two sources.

In conclusion, the examples given here show that although the officially reported Soviet factory fleet tracks are generally accurate, there are significant exceptions. Consequently, caution should be employed when using the IWC track data for any detailed analysis.

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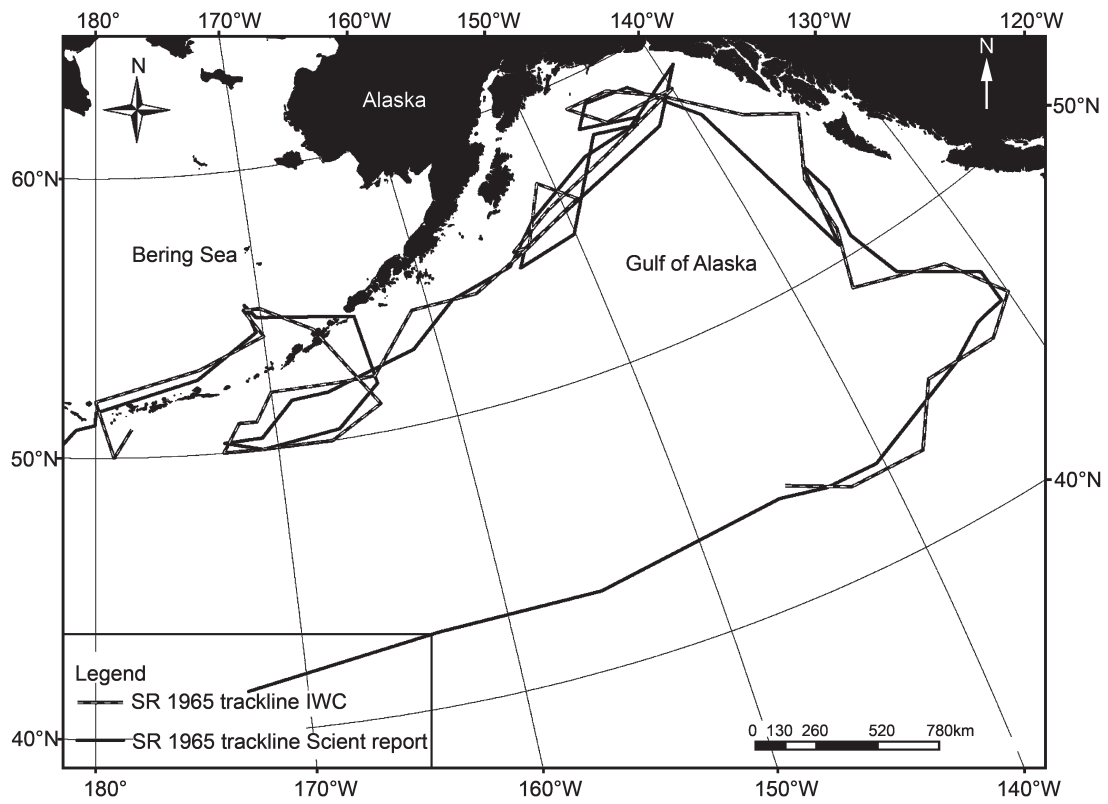


Fig. 1. Reported versus actual track from noon positions of *Sovetskaya Rossiya* (SR) in the North Pacific, 1965. The true track (solid line) was shown in the scientific report for the fleet's 1965 whaling season.

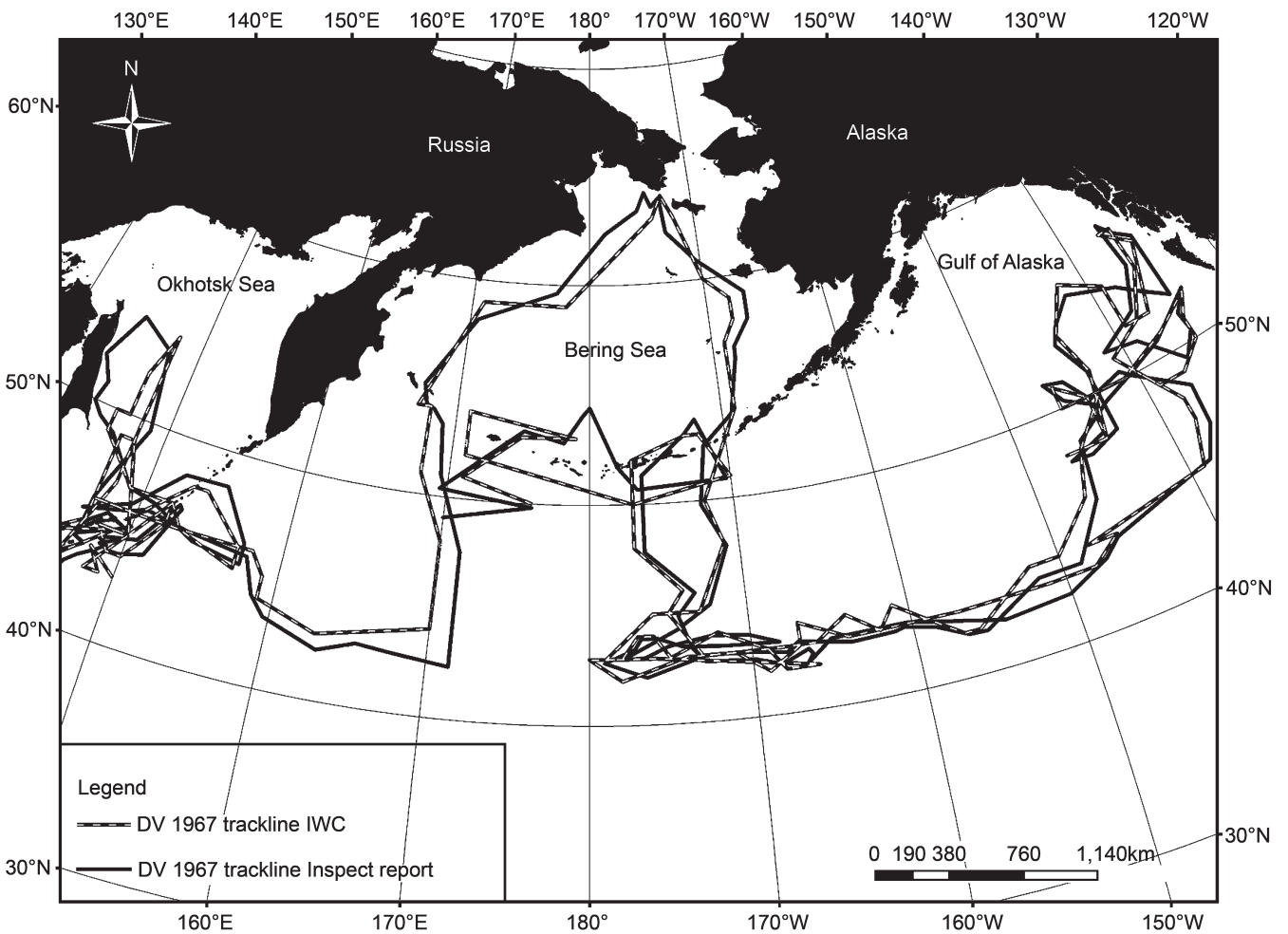


Fig. 2. Reported versus actual track from noon positions of *Dalniy Vostok* (DV) in the North Pacific, 1967. The true track (solid line) was shown in the inspectors' report for the fleet's 1967 whaling season.

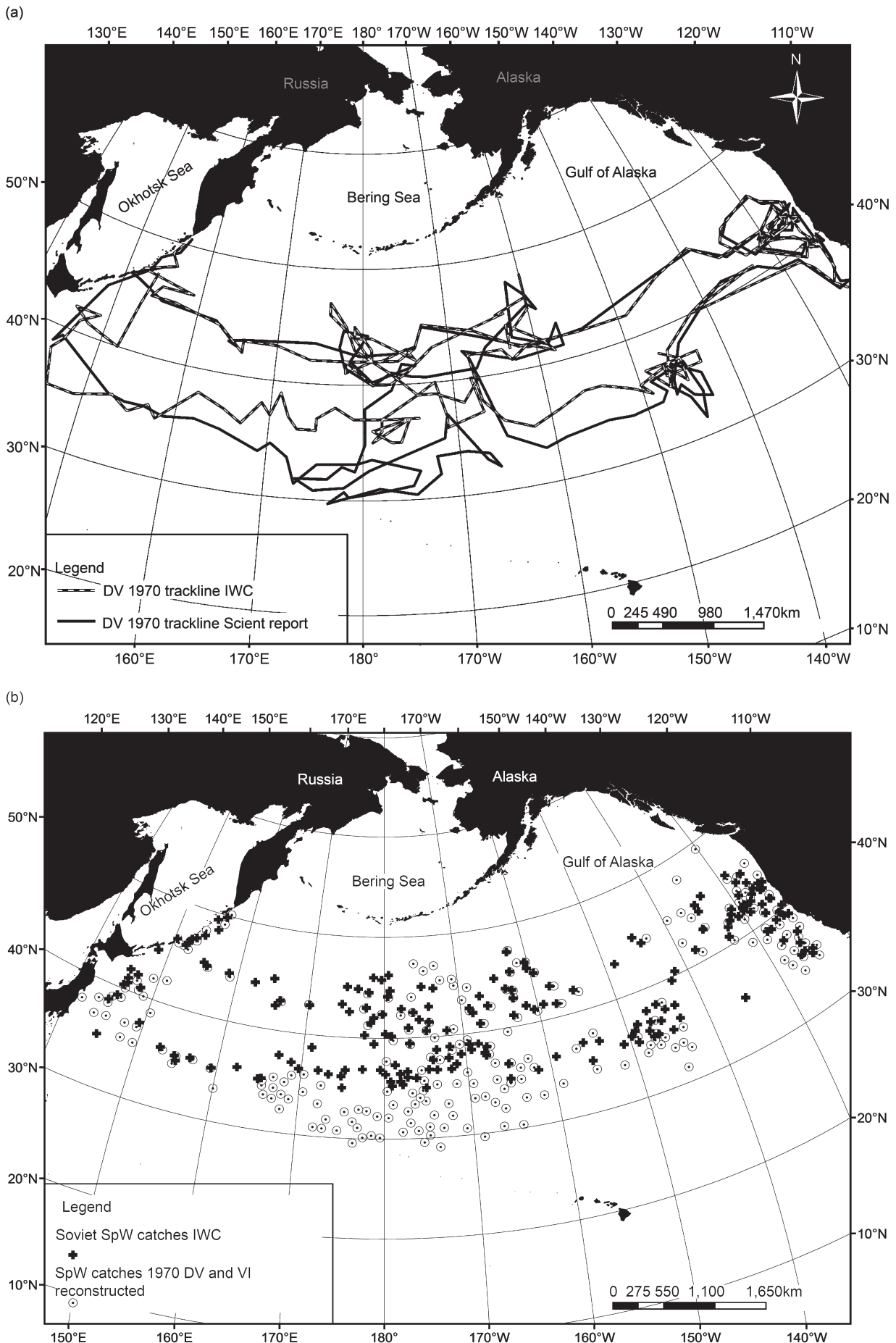


Fig. 3. (a) Reported versus actual track from noon positions of *Dalnyi Vostok* (DV) in the North Pacific, 1970. The true track (solid line) was shown in the scientific report for the fleet's 1967 whaling season. See (b) for associated catches. (b). Reported versus actual (reconstructed) catches of sperm whales (SpW) made by the *Dalnyi Vostok* fleet in 1970.

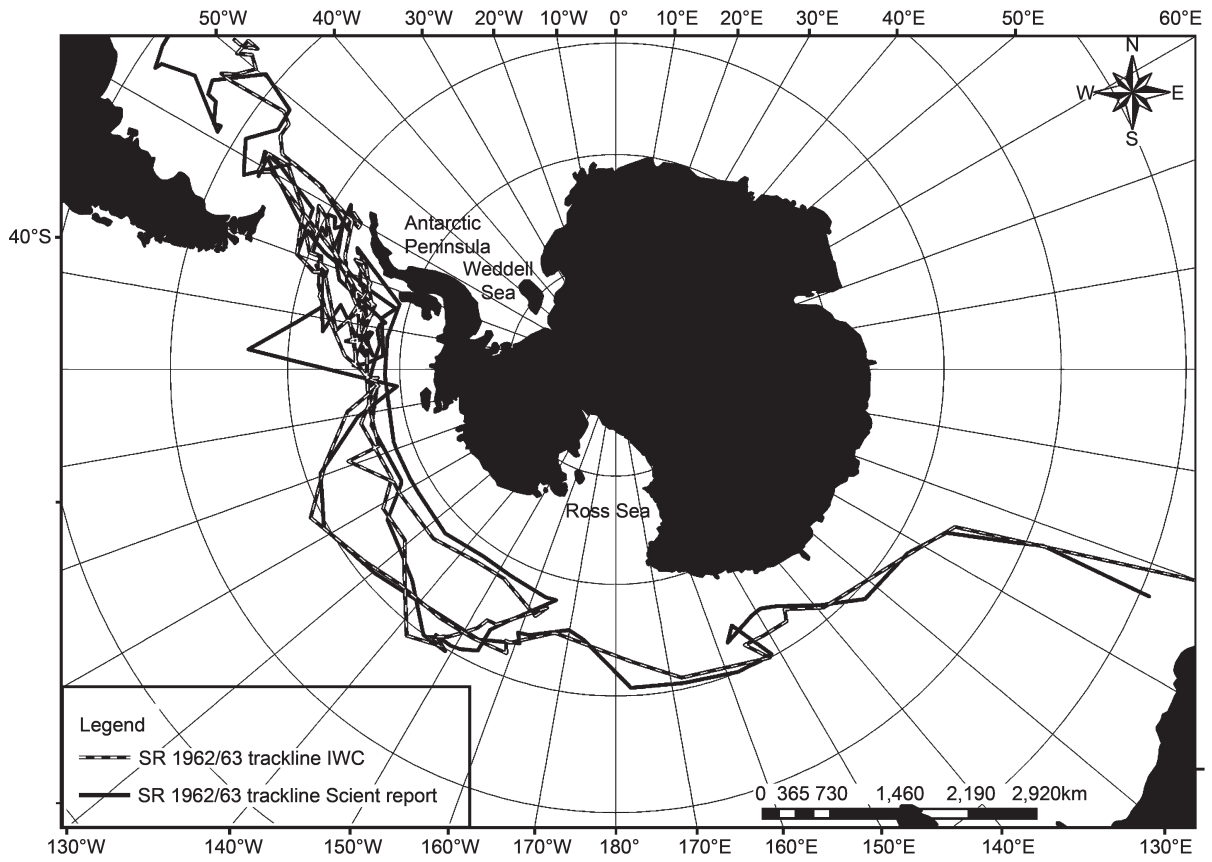


Fig. 4. Reported versus actual track from noon positions of *Sovetskaya Rossiya* (SR) in the Southern Hemisphere, 1962/63. The true track (solid line) was shown in the scientific report for the fleet's 1962/63 whaling season.

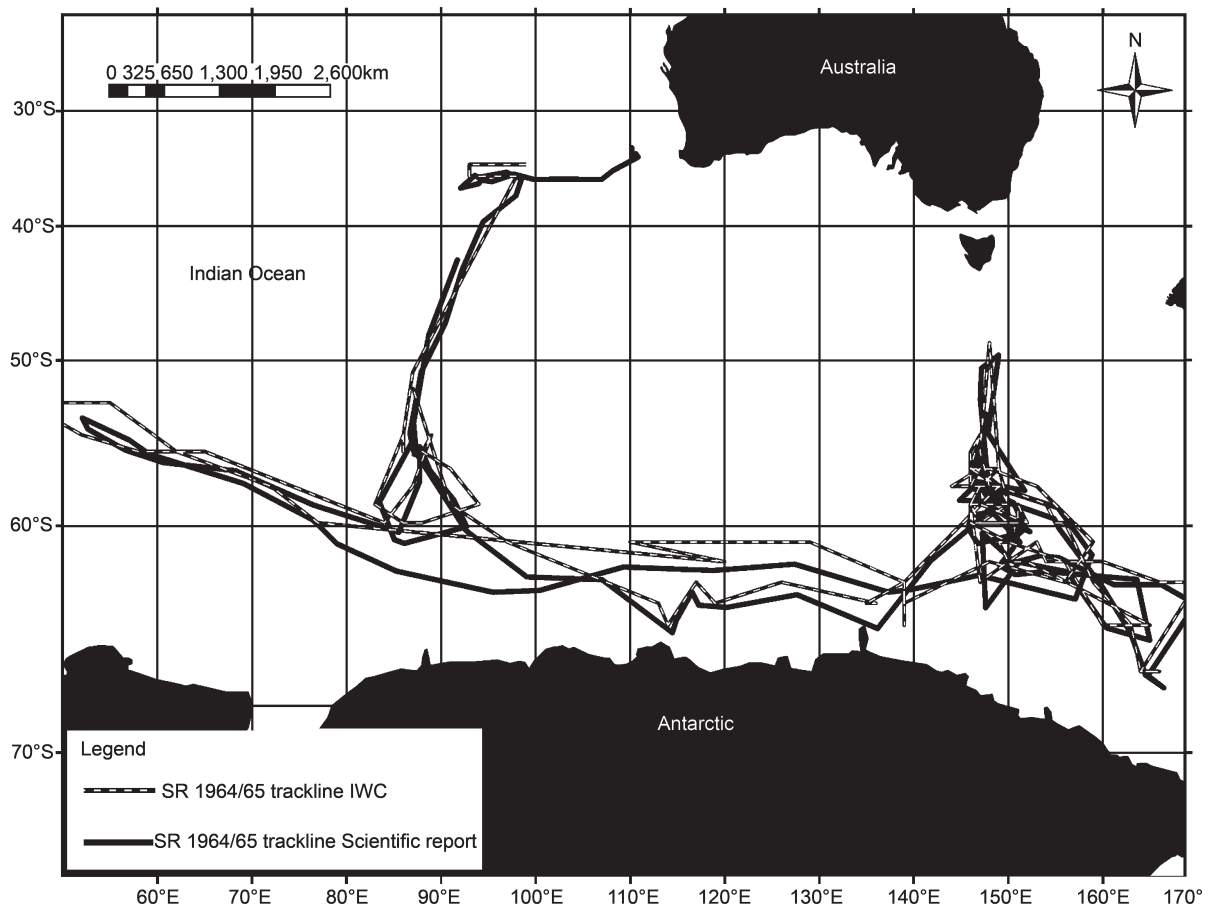


Fig. 5. Reported versus actual track from noon positions of *Sovetskaya Rossiya* (SR) in the Southern Hemisphere, 1964/65. The true track (solid line) was shown in the scientific report for the fleet's 1964/65 whaling season.