

Too Much Is Never Enough: The Cautionary Tale of Soviet Illegal Whaling

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“But thus do we waste our substance in riotous living. In the haste to get rich a great source of wealth is being wrecked, and it seems to be nobody’s business to take any steps to mend the matters.” (W. P. Pycraft, 1916:548)

“It is the impossibility of reconciling these two aspects, conservation of whale stocks and the economic interests of whaling, that constitutes the real reason why the Commission had not been in a position to carry out its task.” (Tønnessen and Johnsen, 1982:510)

“We should leave a desert behind us.” (Vice-Captain-Director on *Sovetskaya Ukraina* giving an instruction for whaling, Berzin, 2008:42)

Introduction

In this article, we trace the history and details of what might be called

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one of the 20th century’s more notorious environmental crimes: the global campaign of illegal whaling conducted by the U.S.S.R. between 1948 and 1972¹, a campaign that, together with the poorly managed “legal” whaling of other nations, devastated many whale populations. It is a story of the sprawling Soviet planning system’s obsession with attaining production goals despite limited and diminishing resources, and of the U.S.S.R.’s desire to do every-

¹In 1972 an International Observer Scheme was introduced and large-scale Soviet unrestricted catches ceased, but some falsifications of catch data continued on at least some Soviet fleets for a few more years (Mikhalev et al., 2009).

thing bigger and better than other nations, especially those in the capitalist world. More than anything, this is a cautionary tale of the failure of other whaling nations and the International Whaling Commission (IWC) to react to mounting evidence of declining whale stocks, and to adequately monitor adherence to regulations and catch limits² as set through international agreements.

²The terms “catch limits” and “catch quotas” are both used, somewhat confusingly, in the IWC annual reports to describe the number of whales that it was permitted to kill during a whaling season. Overall, “catch limit” means the total agreed catch for the year, while the term “quota”

ABSTRACT—Despite being a signatory to the International Convention for the Regulation of Whaling in 1946, the U.S.S.R. conducted a 30-yr campaign of illegal whaling which arguably represents one of the greatest failures of management in the history of the industry. Here, using a variety of sources including published literature, formerly secret Soviet industry reports, and interviews with former biologists and whalers, we provide an overview of the history, scope, and economic origins of Soviet whaling and examine the domestic and international political context in which it was set.

At various times from 1933 into the 1970’s, the U.S.S.R. operated a total of seven whaling factory fleets and several shore whaling stations. We estimate that 534,119 whales were killed, of which 178,726 were not reported to the International Whaling Commission (IWC). In the Southern Hemi-

sphere, the greatest impact of these catches was on humpback whales, *Megaptera novaeangliae*, where (mostly illegal) takes of more than 48,000 whales precipitated a population crash and closure of shore whaling stations in Australia and New Zealand. The Southern Hemisphere also saw large illegal catches of southern right whales, *Eubalaena australis*. In the North Pacific, the greatest impacts were on sperm whales, *Physeter macrocephalus* (where data on sex and length were routinely misreported together with falsified total catches), as well as on the two already-small populations of right whales, *Eubalaena japonica*, across the North Pacific, and bowhead whales, *Balaena mysticetus*, in the Okhotsk Sea.

Soviet whaling was driven by the state industrial planning system, which frequently set high production targets without regard to the ability of the resource to sustain the

resulting large catches. We trace the evolution of the U.S.S.R.’s public stance at the IWC while the nation was illegally whaling, and summarize its evolving positions on major issues, including catch limits, national quotas, the status of whale populations, and the International Observer Scheme (which the U.S.S.R. opposed for many years, for reasons that are now obvious). We examine the ways in which the U.S.S.R. and other nations exploited weaknesses in the Convention to block or delay decisions unfavorable to the industry.

It is clear that many at IWC knew that the U.S.S.R. was whaling illegally, but they were probably unaware of the large scope of this activity. It is also clear that the Soviets were not alone in falsification of catch data, a problem which underscores the inadequacy of the IWC’s existing procedures for inspection and enforcement with regard to current and possible future commercial whaling.



Figure 1.—Signing the International Convention for the Regulation of Whaling in Washington D.C., December 1946 (Source: Smithsonian Archives, A. Remington Kellogg Papers, record unit 7170).

The huge Soviet whaling factory fleets that once plundered the world's oceans are now gone, and the U.S.S.R.'s illegal whaling lies in the past. But from this campaign—which went undetected, or at least unacknowledged, for three decades—important lessons can and should be learned with regard to the management of whaling today, and indeed of the exploitation of natural resources in general.

In December 1946 in Washington, D.C., 15 nations signed the International Convention for the Regulation of Whaling (ICRW) (Fig. 1). The Convention, which took effect on 10 November 1948, remains in force today and, through the IWC, still governs the international management of whaling.

was used to define a share of this total, as in the case of national quotas (see below).

This landmark agreement followed several earlier attempts to regulate whaling, primarily in the Antarctic. Notable among those were the Geneva Convention (1931) and the Convention for the Regulation of Whaling (1937). All of these international agreements, including the ICRW, had loosely evolved in part from whaling regulations implemented by individual countries, or from concepts previously articulated. The first of these was the “Whale Protection Act,” passed in Norway in 1880 in response to local fishermen's concerns that whaling was having a disruptive effect on local fish stocks (Tønnessen and Johnsen, 1982).

In 1925, a few years before the draft of the Geneva Convention was adopted, Professor Jose Léon Suarez (an Argentinian lawyer) submitted a memorandum to the League of Nations that proposed drawing up in-

ternational regulations for the use of marine resources, and of whales in particular. Suarez proposed the establishment of a large sanctuary for whales in the waters around Antarctica, as well as protection of young whales and the elimination of waste in processing (Ruud, 1956). A number of measures suggested by Suarez were adopted in the Geneva Convention and then transferred into the later agreements.

The debate about the need to manage pelagic whaling (primarily in Southern Hemisphere waters) had effectively begun in the early 1900's; the scientific and political aspects of this debate are covered in detail in Dorsey (2013) and Burnett (2012). Among the main contributors to discussions of possible regulations and conservation measures were a number of prominent biologists of the period, including Remington Kellogg, Alfred Howell,

Johan Hjort, Birger Bergersen, and Alban Dobson. These individuals were involved in developing the first international whaling agreements in 1931 and 1937. In some ways the ICRW was a product of U.S. and British conservation thinking in that scientists such as Kellogg had been involved in other landmark agreements (e.g., the Fur Seal Treaty of 1911) (Burnett, 2012; Dorsey, 2013).

The stated aim of the new 1946 Convention was “to provide for the proper conservation of whale stocks and thus make possible the orderly development of the whaling industry” (IWC, 1950a:10). The implied goal was thus sustainable whaling, although the term itself does not appear in the Convention text. However, this goal was almost immediately compromised by the unwillingness of the whaling nations to take a conservative approach to the management of whale populations. As noted by Dorsey (2013), this was compounded by weaknesses in the final draft of the Convention that would become obvious in later years, and overall the outcome was in some ways not radically different from the situation in the previous century when no management existed at all.

Thus, in the first decade of the IWC, it became increasingly obvious to objective observers that whaling catch limits were set too high and that many whale populations were declining as a result (IWC, 1955a). Within the supposedly transparent Convention framework in which legal whaling operated, whaling management was, in retrospect, largely a failure.

As is now known, the situation was actually far worse than was recognized at the time. This was because, beginning in 1948, the U.S.S.R.—despite being a signatory to the ICRW—began a secret global campaign of illegal whaling; this lasted for three decades and was revealed only after the end of the Cold War (Yablokov et al., 1995; Yablokov and Zemskiy, 2000; Clapham and Ivashchenko, 2009).

Under the terms of the ICRW and the IWC Schedule, whalers were re-

quired at various times to adhere to regulations regarding various aspects of whaling: these included catch limits, defined whaling seasons and areas, and prohibitions on the taking of animals of certain lengths, species, or classes (notably lactating females and calves). In addition, whalers were required to submit accurate data on catches, including number, species, sex, length, and location, to the Bureau of International Whaling Statistics (BIWS). For the purpose of this paper, we regard any infraction of these requirements as “illegal” unless such infractions were reported to the IWC; this would include any catches that were entirely unreported or which were reported with deliberate inaccuracy.

For example, while it was permitted to catch sperm whales, *Physeter macrocephalus*, there was a prohibition on taking animals that were either lactating or below the minimum length (originally 11.6 m (38 ft) and later reduced to 9.2 m (30 ft) for this species), and whalers were expected to report accurately the data on sperm whales caught. The U.S.S.R. frequently violated this requirement by making large unreported catches or by misreporting the sex and length of animals taken.

In other words, the U.S.S.R.’s whalers largely ignored restrictions on catch limits, protected species, operational areas, and other rules set at various times by the IWC. From 1948 to the end of its whaling operations, the U.S.S.R. secretly killed almost 180,000 more whales than were reported to the IWC, with severe impacts on several populations (Clapham et al., 2009; Ivashchenko et al., 2011; Ivashchenko and Clapham, 2012; Ivashchenko et al., 2013). The operational details of this unrestricted whaling, and an accounting of the true Soviet catches, have been summarized by Yablokov et al. (1995), Berzin (2008), Clapham and Ivashchenko (2009), and Ivashchenko et al. (2011, 2013).

In this paper, we provide an overview of Soviet whaling from several

points of view. First, we briefly review the industry’s development, the scope of the catches (legal and illegal), and the sometimes lingering impact these have had on certain whale populations. We then describe the way in which the Soviet economic planning and political system made the illegal catches inevitable, and examine the underlying political strategies and positions, both domestic and international, adopted by the U.S.S.R. to perpetuate its whaling. Finally, we show how flaws in the IWC and its underlying Convention allowed the U.S.S.R. and other countries to hide or ignore the illegal whaling and to effectively block attempts at greater transparency in catch monitoring. From this, we derive some basic lessons for the regulation of industrial whaling today.

It is not the intention of this paper to analyze every aspect of Soviet whaling or the overall political system of the U.S.S.R. Rather, our goal is to look at the conditions and reasons that made possible the large Soviet catches without regard to conservation of natural resources, set within the framework of international politics at the IWC.

Our analysis is based upon research into Soviet whaling using multiple sources of information. These include: 1) annual IWC reports from 1949 to 2012 (including verbatim records for some years); 2) published Soviet and other literature (much of it in Russian); 3) many formerly secret³ Soviet whaling industry reports, now declassified and recently found in Russian public archives; and 4) extensive interviews with former whalers and scientists who worked on different Soviet whaling fleets. Details of industry reports and interviews are given in Ivashchenko et al. (2011).

The History and Scope of Soviet Whaling

The U.S.S.R. entered the business of modern industrial whaling com-

³“Secret” here means formerly classified documents or other materials that were not publicly available until after the Cold War. It was illegal in the U.S.S.R. to reveal these reports or the data on which they were based.

paratively late. Soviet whaling did not begin until 1932, when a former American cargo vessel was converted into a whaling factory ship and renamed *Aleut* (Berzin, 2008). This whaling continued at a modest level for 14 years before the decision was made to expand operations, partly in response to the nation's desperate need for fats and oil following the devastation caused by World War II. In 1946, the whaling was extended into Antarctic waters, following the U.S.S.R.'s acquisition, as a war reparation, of the former German factory ship *Wikinger*, renamed *Slava* (Bulkeley, 2011). At the same time, several Japanese shore whaling stations were taken over by the U.S.S.R. when the Kuril Islands became Soviet territories, and these began whaling operations in 1948.

In 1959, Soviet whaling began a rapid expansion. Over the next 5 years, five new whaling fleets were introduced: three large fleets (*Sovetskaya Ukraina*, *Sovetskaya Rossiya*, and *Yuriy Dolgorukiy*) for the Antarctic and two medium-sized fleets (*Vladivostok* and *Dalniy Vostok*, the last added in 1963) to work in the pelagic waters of the North Pacific (Ivashchenko et al., 2011). This represented a very late expansion compared to most other whaling nations.⁴ The delay in expanding likely originated in the need to learn the business of building and operating modern whaling factory ships and catchers, together with the unique characteristics of the Soviet planning system. With the arrival of the new fleets, which in some cases included more than 20 catcher vessels per fleet, the catches of whales soared; one example, that of the rapid increase in sperm whale catches in the North Pacific, is shown in Figure 2.

Indeed, despite having started slowly with modest catches, by the early 1960's the U.S.S.R. had become one of

⁴The exception was Japan, which began to rapidly expand its Antarctic whaling fleet in the early 1950's and continued to buy existing British, Norwegian, and Dutch fleets (after 1962 primarily to obtain the catch quotas that came with such fleets) through the late 1960's.

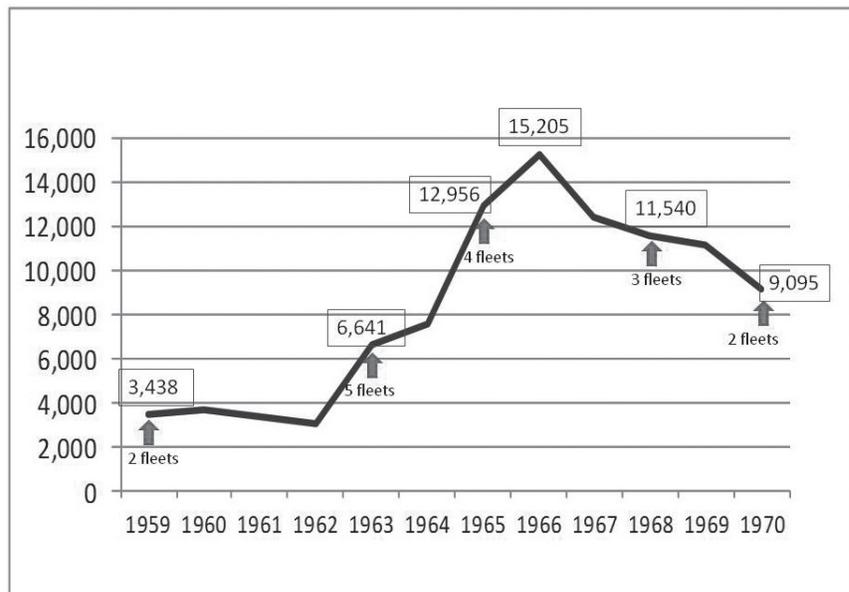


Figure 2.—Increase in sperm whale catches in North Pacific during 1959–70.

the major players in worldwide whaling. In the 1961–62 Antarctic whaling season, for example, the U.S.S.R. owned 4 of the total of 21 whaling fleets then operating, and had voluntarily set a quota at 20% of the total catch limit. The Soviets officially reported taking 18.5% of the total number of whales killed for the 1961–62 season (Tønnessen and Johnsen, 1982) but in reality they took 28% (Allison, 2011).

Eventually, however, depletion of whale populations together with the age of some factory ships led to the gradual closure of operations, or a refitting of factory fleets for fisheries. All of the Kuril shore stations were closed by 1964; the *Aleut* fleet ceased operations in 1967, and *Slava* in 1969. Four of the remaining five whaling fleets were broken up or retasked at various points between 1975 and 1979; only one whaling fleet (*Sovetskaya Ukraina*) was left to work after 1980. With the passage by the IWC of a moratorium on commercial whaling in 1982, together with the high cost of maintaining this large fleet, all Soviet whaling came to an end in 1987.

Taking Stock: Total Catches

Over the approximately 30-yr period in which the Soviet catches were made, a great number of whales were killed in both the Southern Hemisphere and the North Pacific (the North Atlantic was the only major ocean in which the Soviets did not operate). The total catch in the Antarctic was approximately 338,336 whales, of which only 185,778 were reported (Ivashchenko et al., 2011). In the North Pacific, the U.S.S.R. killed an estimated 194,177 whales and reported 169,615. Thus, the overall worldwide difference between actual and reported catches by the U.S.S.R. was approximately 177,130 whales (Table 1).

Modern whaling in the North Pacific was for a long time overshadowed by the huge catches in the Southern Hemisphere, and the impact of whaling on whale populations in the North Pacific was less immediately obvious. There was probably no significant impact before 1948 (when the Kuril Islands were annexed as Soviet territories), because the one small factory ship (*Aleut*) and its three catchers had a very limited

Table 1.—Total catches for all Soviet whaling fleets in the Antarctic (A) and in the North Pacific (B), by species. Note that actual catch totals are in some cases substantially larger than those reported by Yablokov et al. (1998) and by Clapham and Baker, (2009); they reflect the most recent accounting by the IWC, as of 21 May 2012.

A: Antarctic, 1946–86			
Whale species	Reported	Actual	Difference
Blue & pygmy blue	3,651	13,035	+9,384 (357%)
Fin	52,931	44,960	-7,971 (85%)
Sperm	74,834	116,147	+41,313 (155%)
Humpback	2,710	48,721	+46,011 (1798%)
Sei	33,001	59,327	+26,326 (180%)
Minke	17,079	49,905	+32,826 (292%)
Bryde's	19	1,468	+1,449 (7726%)
Southern Right	4	3,368	+3,364 (-)
Other	1,539	1,405	-134 (91%)
Total	185,768	338,336	+152,568 (182%)
B: North Pacific, 1948–79			
Blue	858	1,621	+763 (189%)
Fin	15,445	14,167	-1,278 (92%)
Humpback	4,680	7,334	+2,654 (157%)
Sperm	132,505	157,680 ¹	+25,175 (119%)
Sei	11,363	7,698	-3,665 (68%)
Gray	1	149	+148 (-)
North Pacific Right	11	681	+670 (6,191%)
Bowhead	0	145	+145 (-)
Baird's beaked	148	146	-2 (99%)
Killer	401	401	0 (100%)
Bryde's	3,517	3,466	-51 (99%)
Minke	686	689	+3 (101%)
Total	169,615	194,177	+24,562 (114%)

¹Includes a correction factor of 4,000 animals for 3 years in which true catch data are missing. Sources: Allison, 2011; Ivashchenko et al., 2013.

range and capability; until 1948, annual catches ranged from 204 to 553 whales (Sleptsov, 1955). Catches in the pelagic North Pacific increased after 1948 but for some years remained relatively low. Meanwhile, in just a few years the new Soviet fleet *Slava* working in the Antarctic increased its catches from 386 (in 1947) to approximately 5,900 whales by the 1958–59 season (Allison, 2011).

The major expansions began in 1959 in the Antarctic and in 1962–63 in the North Pacific, with the introduction of the new large whaling fleets. In the North Pacific, catches of all species rose significantly, and none more so than of sperm whales, where numbers increased from 3,269 taken by two whaling operations in 1961 to 15,205 in 1966 when four Soviet whaling fleets were working (Ivashchenko et al., 2013). At the same time, in the Southern Hemisphere the four large Soviet fleets were killing large numbers of all species of baleen whales as well as sperm whales.

“The *Slava* whaling fleet moved [after receiving a report of nu-

merous whales sighted by another Soviet vessel] to the area... and in less than a month killed 1,500 humpbacks (from the western Australian stock) [February–March 1958]. Continuing whaling further east *Slava* reached the Ross Sea and the rest of the time was spent working on the humpbacks of the eastern Australian stock. The number of killed whales during this season was limited only by the ability to process them.” (Berzin et al., 1962:80)

With the exception of occasional over-reporting of catches of certain “legal” species, most catches were greatly under-reported in the U.S.S.R.’s official submissions to the IWC (see Table 1). The exact reasons for over-reporting of some species (notably fin and sei whales), either to the IWC or even in some internal reports, are not entirely clear. This may relate to a need to match the number of whales killed with products obtained, but this problem would be different in nature depending on whether the mismatch related to internal pro-

duction targets or to products sold on the international market. Dorsey (2013) suggests that over-reporting during a whaling season would accelerate the apparent fulfillment of the season’s catch limit, prompting BIWS to order a cessation of hunting and thereby leave the U.S.S.R. in a position to continue catches without competition or oversight from other fleets. Testing (with catch data) whether this explanation has validity is beyond the scope of this paper, although a cursory analysis does not indicate that over-reporting occurred to an extent sufficient to accomplish the goal of prematurely shortening a whaling season.

Impacts on Populations: Some Examples

The impact of the illegal Soviet catches on different whale populations varied according to the size of the catch and the extent to which a population had already been reduced by “legal” whaling, but it is worth highlighting some of the worst examples. Particularly egregious was the situation with sperm whales in the North Pacific. It was not merely that only some of these catches were reported (thus creating a biased view of total removals), but also that the Soviet reports falsified the sex and lengths of the sperm whales caught (as noted below, Japan was engaged in a similar practice, albeit on a smaller scale).

While actually making large catches of undersized females (which was illegal under IWC rules), the Soviet fleets reported instead taking large numbers of males with very few females, thus misleading other IWC members into believing that males were being excessively hunted in the North Pacific. Unfortunately, this deception led the IWC to lower the minimum size limit for sperm whale catches (from 11.6 to 9.2 m) in a misguided attempt to take pressure off males by encouraging catches of the smaller females, when in reality it was the females that had already been severely depleted (Berzin, 2008:45–46). Sperm whales in the North Pacific were a target species for whaling operations for almost

two centuries; the intense and largely illegal Soviet catches during the last period of modern whaling effectively removed much of the prime reproductive part of the population, thus further inhibiting recovery.

Two other species that suffered significant impacts from the Soviet catches in the North Pacific were the right whale, *Eubalaena japonica*, and the bowhead whale, *Balaena mysticetus*, both of which had already been over-exploited by historical (sail-based) whaling beginning in the mid-1800's (Clapham et al., 1999). Under the ICRW, right and bowhead whales in all oceans were protected from any commercial whaling, but this was ignored by Soviet whalers. The best estimate of total North Pacific right whale catches in the North Pacific and the Okhotsk Sea is 681, only 11 of which were reported (Ivashchenko and Clapham, 2012). In particular, the Soviets probably removed the bulk of the remaining population in the eastern North Pacific: a recent estimate puts the size of this population today at only 30 animals (Wade et al., 2011). The current status of the second recognized population (the western stock, which feeds in the Okhotsk Sea) is unknown, but is thought to number in the hundreds. Bowhead whales in the Okhotsk Sea were killed during at least 2 years when Soviet whalers were in this area and caught 145 whales (Ivashchenko and Clapham, 2010; Ivashchenko et al., 2013).

Although these numbers are relatively small compared to catches of some other species, they were potentially devastating because of the already greatly depleted status and small size of the populations concerned. Both bowhead and right whales were in the initial stage of recovering from serious depletion of their populations resulting from intensive whaling in the 19th century (Scarff, 1991; Clapham et al., 1999). However, the precarious state of these stocks did not prevent Soviet whalers from trying to fulfill their production targets (see below) or to meet other demands of the Soviet system: in the 1967 season significant pressure

was put on the *Dalnyi Vostok* whaling fleet to obtain a higher catch of baleen whales to mark the 50th anniversary of the October Revolution (Raskatov and Latishev, 1967). Because whalers could not find significant numbers of baleen whales during the season elsewhere in the North Pacific, this resulted in a catch of 126 right whales killed in the Okhotsk Sea during September of that year. Although the size of the Okhotsk Sea population today is unclear, the catches likely represented a significant fraction of the existing population at that time.

“[Moscow] constantly demanded that the fleet administration increase the catch of baleen whales, even though baleen whale reserves in the northern part of the Pacific Ocean are in poor condition. After a direct order to go to the Bering Sea the fleet [*Dalnyi Vostok*] was hunting fin whales, the majority of which were undersized or lactating.

The necessity to increase the output of edible products and to compensate for a shortfall in August catches forced the fleet in the middle of September to catch right whales off Sakhalin Island and undersized sperm whales around the Kurils...” (Raskatov and Latishev, 1967:59).

In the Southern Hemisphere, the most dramatic example of the impact of Soviet illegal catches concerned humpback whales, *Megaptera novaeangliae*, of the eastern Australia and Oceania populations. IWC regulations relating to humpback whale catches in the Southern Hemisphere began in 1949 with a maximum permitted catch of 1,250 whales (IWC, 1950b). The next year's (1950) meeting agreed that humpback whaling should not begin before February 1st (IWC, 1951), and restricted this season even further, to just 3 days (1–3 Feb.), in 1952 (IWC, 1953). In 1961, humpback whaling was prohibited in all regions of the Antarctic except IWC management Areas I, III, and VI (IWC, 1962a), and

in 1963 complete protection was given to all Southern Hemisphere populations (IWC, 1965a).

Despite this, during 4 years of large catches from 1958–59 to 1961–62, some of the Soviet fleets worked almost exclusively on humpbacks for the entire whaling season. For example, during *Slava's* 1959–60 season, 92% of the catch consisted of humpback whales (Berzin et al., 1962), while in two seasons (1959–61) the *Slava* and *Sovetskaya Ukraina* fleets took an astonishing 25,000 humpbacks in Antarctic waters. These catches were so intensive that shore whaling stations in Australia and New Zealand were forced to close as a result of a lack of whales (Clapham et al., 2009), and 50 years later the Oceania population remains at relatively low numbers and is not recovering as expected (Constantine et al., 2012).

Southern right whales, *Eubalaena australis*, also suffered large illegal catches despite having been protected in 1935 and again under the ICRW in 1946. In total, the Soviets killed 3,368 right whales in various parts of the Southern Hemisphere while reporting only 4 of these takes to the IWC.

For other species of large whales, the impact of catches was not as dramatic; however, under-reporting and the consequent uncertainty regarding true catch totals greatly compromised later IWC assessments of some populations.

Too Much is Never Enough: The Economics of Illegal Whaling

As detailed by Ivashchenko et al. (2011), the factors responsible for driving the high catches in the whaling industry, and for pushing whalers to take illegal whales, all had their origin within the Soviet economic system. The entire system—which transformed the U.S.S.R. from a largely rural economy into an industrial giant—was focused upon fulfillment of production targets assigned by the ministries for all industries, including whaling. These targets were set by the State Planning Committee, and they were developed without regard to the

actual state of natural resources (a situation which was certainly not unique to the U.S.S.R. but represented a failing of many fishery industries around the world: Pauly et al., 2002; Pauly and Palomares, 2005). Nonetheless, the Soviet management was publicly characterized as a responsible system featuring appropriate use and preservation of resources for the future. One of the tasks in the range of responsibilities for the Ministry of Fisheries (which also including whaling) was stated as follows:

“To safeguard fish stocks, work out and implement measures to reproduce and regulate fisheries in the water bodies of the U.S.S.R. . . . To draw up proposals for limits on catches of valuable commercial fishes [and] marine animals .” (Sysoev, 1974:106).

In reality, however, targets were set high, and meeting—and especially exceeding—targets resulted in bonuses as well as privileges, awards, and other recognition. In whaling, those who met or exceeded these targets would obtain a bonus ranging from 25% to 60% of their salary. This situation was complicated by the fact that the Soviet system was aimed at full employment, potentially resulting in the need to employ and pay more workers than may have been necessary.

The production targets were high to begin with, and the situation was further exacerbated by the fact that the following year’s targets would often be set at the level achieved the previous year; this forced whalers to catch ever more whales to qualify for new bonuses, a situation which the whale populations concerned inevitably could not withstand (Ivashchenko et al., 2011).

Work in the whaling industry was unusually well paid and therefore highly competitive; consequently, workers who failed to attain high achievements could (with the exception of specialized positions such as harpooners) be easily replaced or demoted. A whaling inspectors’ report from the 1966 season of the whaling fleet *Dalniy Vostok*

describes the difficulties of reaching the target and the actions that it led to:

“[There were] very complicated whaling conditions during the 1966 season, including unfavorable weather conditions, a sharp decline in the availability of resources, lack of baleen whales in areas south of the Aleutian Islands, and a large number of undersized sperm whales found in the areas south of 40 degrees N. Even though 73.1% of all catches [4,391 out of 6,006 whales] were in violation of the whaling regulations, the fleet and four catchers could not meet the State plan target for catches and production.

All departures from the rules of whaling were allowed, with the goal of unconditionally meeting the established State plan target for catches and production, since in the current whaling situation catches of only those whales permitted under the whaling regulations would not guarantee fulfillment of the targets set for gross output.” (Sviridenko and Raskatov, 1966:24).

The combination of the requirement to meet or exceed production targets, together with socialistic competition⁵, turned the business of whaling (and every other industry in the U.S.S.R.) into an often manic numbers game. The resulting ever-increasing catches often consisted in substantial part of illegally killed whales, either of protected species, undersized whales, or both. As a scientific report for one of the largest Soviet factory fleets noted:

“In January we [of the *Sovetskaya Rossiya* fleet] killed 373 humpback whales, 136 (37.6%) of them

⁵The socialistic competition was a significant and explicit part of the Soviet economic system (see Ivashchenko et al., 2011). It featured competition at all levels, from individuals to the whaling fleets, to obtain higher production output in order to receive special recognition and awards. The socialistic competition thus served to further increase catches, beyond those set by the often already high production targets.

below 10.7 m; and 42 (11.2%) were whales 8 m and smaller. During the period 5–13 January, 195 humpbacks were killed and 51 of them were 8.0–8.2 m (or 26%)! On some days the number of humpbacks with a body length of around 8 m reached 30%! Almost all of them were calves... It would not be quite right to blame whalers for these catches—they had no choice within the aggregations they found. If they did not kill these under-sized whales, they would not fulfill the State target plan, which was the reason why they came to the Antarctic” (Berzin et al., 1962:82).

Despite complaints and warnings from scientists and some officers on the whaling fleets, populations of whales were often hunted until they were too depleted to be worth further search effort (i.e., economically extinct). Here again is the voice of scientists writing in a fleet report:

“There could be only one conclusion from all that has been said above: during the five seasons of intense whaling with first one, then two, and finally three fleets, the three stocks (western and eastern Australian and New Zealand population) of humpback whales were decreased in abundance to a point that allows us to say that they are almost completely wiped out” (Berzin et al., 1962:82).

Occasionally, the inspectors’ reports reveal a conflict within the government with regard to the impossibility of reconciling high production targets with a perceived need to not violate whaling regulations. This is from the Inspector’s Report for the 1968 season of the *Dalniy Vostok* fleet (Latishev et al., 1968:7–28):

“We found large numbers of undersized sperm whales, but hunting them was prohibited by the whaling inspection department. Very few whales of le-

gal size were found, and this put the goal of meeting the plan target at risk of failure.... After repeated requests to Moscow about continuing whaling following numerous observations of only undersized sperm whales, we received a cryptogram signed by Comrade Studenetskiy⁶. This telegram suggested that the State inspectors work together with the Captain-Directors and take all measures necessary for the unconditional fulfillment of the plan target... By the 23rd of May the fleet arrived at the appointed area and began large-scale extermination of undersized whales.”

The narrative continues:

“In the beginning of the month we received, simultaneously, two cryptograms: 1. Comrade Kamentsev⁷ and 2. Drozdov and Kogan. The first noted unacceptability of continued whaling on illegal whales [i.e. undersized sperm whales], while the second contained a suggestion for the fleet to add 12 000 tons of raw products, over and above the existing plan target. The bluntness of the telegram from comrade Kamentsev required us to issue the strictest warnings to the captains and harpooners of the catchers, as a result of which the rate of catches sharply declined.... The groups of sperm whales contained up to 40% lactating females; the captains were careful and tried to avoid them, and as a result the catch for 3 days equaled 0.

The southern region, in which out of necessity we worked in October and part of November, is the principal area of sperm whale reproduction. No reprimands, warn-

ings, fines and reports (written and verbal) could slow down the unrestrained killing of undersized whales and lactating females, because otherwise the plan target would not be met.”

The report then summarizes the situation for the season, reiterating the conflict and outcome noted above:

“The work of the State inspectors to regulate obedience to the “rules” of whaling in the last season encountered many difficulties. On one side we had to strictly control the execution of all whaling rules, and on the other hand the target of raw output...undoubtedly had to be met. Whaling resources in the North Pacific are so depleted that there is no point talking about a hunt of “legal” whales. In addition, the percentage of illegal whales taken, in numbers and in output, is increasing every year. In the beginning of the whaling season the Inspection department imposed strict penalties on violators of the “Rules of whaling”. Despite this effort, raw output from illegal whales made up 44.5% of the total, while only 57.9% of the monthly target was obtained. After that, the Inspection and the administration of the fleet received instructions [from the Ministry] and it was subsequently decided to work together to take all measures to ensure the unconditional fulfillment of the plan target” (Latishev et al., 1968:7–28).

It is not known what prompted certain officials to occasionally express concern for violation of IWC regulations, but the ultimate resolution of this rather schizophrenic conflict seems always to have been the same: production targets trumped everything else.

In addition to the peculiarities of the production target system, total control over the nation’s economy was wielded by the Communist Party. This often led to decisions that were determined

by political expediency rather than rational economics; and a sprawling bureaucracy only added to the problems (Gregory, 2006).

Politics and Economics Within the U.S.S.R.

The domestic politics of any country are important to an understanding of its international actions, and in this context we now examine the specific situation in the Soviet Union. Although not all of the characteristics described below were uniquely Soviet, the combination of factors made it possible for the illegal activities to be prosecuted on a large scale and for an extended period without detection, or at least without acknowledgment of their existence.

After the October Revolution of 1917, and to an even greater extent after WWII, the Soviet Union became a politically, socially, and economically isolated country (Bulkeley, 2010, 2011, 2012). The U.S.S.R. had a unique economic system that was based upon production, but not profit per se, and presided over by an extensive bureaucracy under the control and leadership of the Communist Party (Gregory, 2006). All businesses belonged to the State and were thus managed as one gigantic “corporation,” where different departments were represented by huge industries (such as fisheries, in the case of whaling). Because of the nature of this system, the industries were not constrained by any need for sustainability or profit in order to survive (Chuksin, 2006; Gregory, 2006). As noted above, provision of full employment was also a major factor in economic planning.

A consequence of this is that any direct comparison between the financial situation of the whaling companies of other countries and the Soviet whaling fleets becomes confusing and potentially inappropriate, with the need to incorporate the different price/cost subsidies that existed in the U.S.S.R. Tønnessen and Johnsen (1982) compiled a detailed analysis of whaling economics in different years, including calculations of the cost of production

⁶Studenetskiy Sergey Alexandrovich was director of the VNIRO research institute, and during 1967–77 was Vice-Minister of Fisheries for “studies of the world’s oceans”.

⁷Vladimir Mikhailovich Kamentsev was first Vice-Minister of Fisheries beginning in 1965 and Minister of Fisheries in 1979–86.

for Soviet whaling in 2 years (1961–63). Based upon the prices established elsewhere in Europe, and the falsified catches reported by the U.S.S.R. (Tønnessen and Johnsen were unaware that these data were false), they concluded that it was 2.4 times more expensive for the Soviet whaling fleets to produce whale oil than to buy it (Tønnessen and Johnsen, 1982:634).

However, for the reasons noted above (in addition to the false catch data used), this is not a valid comparison: Soviet whaling was a state-owned, government-subsidized industry with no need to be self-sufficient as long as production targets were being met. Some internal Soviet reports use the terms “revenue” and “profit” (e.g. Anonymous, 1962, 1965, 1966), and from this it appears that, given the high catches in the early years of the industry’s operations (until the end of the 1960’s), the large new Soviet fleets were actually “profitable” enterprises.

However, while “profit” is clearly the excess of revenue over operational costs, “revenue” is harder to define in the context of the socialist economy of the U.S.S.R., which set its own product prices and somehow transferred money between ministries and industries. Understanding the true costs and the nature of revenues within this industry is beyond the scope of the present paper and requires a separate study by an expert in Soviet economics.

The political and social isolation of the Soviet Union, and the inability of its citizens to readily access alternative sources of information, created ideal conditions for the authorities to distribute any information they deemed useful. The resulting propaganda sometimes contained carefully chosen portions of real information or used fabricated or distorted facts in order to manipulate the public view of an issue and to justify the international and domestic actions of the state (Nikonorov, 2008; Tormosov⁸; Doroshenko⁹).

⁸Tormosov, retired, interview in Odessa, Oct. 2008.

⁹Doroshenko, retired TINRO, Vladivostok, interview Nov. 2009.

As some individuals interviewed by us have noted with regard to explanations for illegal catches, should any overly curious scientist or whaler enquire, the answer given typically consisted of two arguments. First, “we” started whaling late and other countries (namely Norway, the United Kingdom, and the United States) have already killed so many whales, so our catches represent just a small fraction of the total and cannot have much impact on populations (Nikonorov, 2008). This explanation sometimes further noted that less than 15% of the total number of whales killed during the period of modern whaling in the Antarctic were taken by the U.S.S.R.; however, this figure is misleading since it ignores the fact that many of the Soviet catches were concentrated in a short time period, and thus they severely impacted some populations, especially those which had already been reduced by other nations’ whaling.

The second argument was to say that all other whaling countries are whaling illegally, and if we do not kill this whale (and use it for a good socialist cause) it will be killed anyway by some other fleet, thus creating profit for a few capitalists (Zenkovich, 1954; Tormosov⁸). All foreign countries/companies were characterized as “our enemies”—and from outside it was clear that the feeling was mutual, and that the Soviet Union was often perceived the same way (Bulkeley, 2010, 2011). The official Soviet literature clearly stated that all that was done was just and for the noble cause of socialism, which was not the case with the capitalist countries and companies. Here is Zenkovich (1954:353), railing against the evils of capitalism:

“Unfortunately, it is impossible in capitalistic conditions to implement laws that infringe the appetites of the monopolists. For example: an annual quota is established for humpback whale catches in Antarctic waters (in the last few years this number has been 1,250 animals). Yet it is permitted to kill three times more whales

in the breeding areas! Even not just three times more, but rather however many they can kill, because the whalers there work from shore stations, where catches are unlimited...

All rules and laws are active only during the time when supply is exceeding demand. As soon as the movers and shakers of the capitalist market increase the demand, all rules are immediately violated, and the concerns of biologists are portrayed as unfounded and even laughable. That is how it was and will be in the world of capitalism, where the highest law is the largest profits.”

Certainly some would say that the Soviet system had admirable characteristics. As noted above, the system in the U.S.S.R. was designed to provide full employment, as well as to guarantee support and care for every citizen. In another book on whaling, the prominent Soviet whaler Alexei Solyanik (1952:31) explains the major difference between the Soviet Union and all capitalist countries regarding the way their citizens are treated, and in so doing he articulated the need to always support the U.S.S.R. because its very nature meant that all actions were undertaken by it for the sake of improving the lives of all common people:

“Our State takes care of its citizens, including seamen... We do not have and cannot have unemployment, and in case of sickness you will be treated for free and your salary will be paid for this time. In our country nobody has black days and never will.”

Economic contacts with the U.S.S.R. were also severely limited, sometimes owing to obstacles set by the West. In 1950, the Soviet Union unsuccessfully tried to purchase the Dutch whaling factory ship *Willem Barendsz* and was apparently willing to pay a high price (Tønnessen and Johnsen, 1982). When it became clear that the Dutch would not sell, the U.S.S.R. recognized that



Figure 3.—Captain Alexey Solyanik (second from right) during the traditional celebration of crossing the equator on the deck of the factory ship *Slava*. Photo: I. P. Golovlev.

the only way to expand was to build its own fleets. Furthermore, given the underlying Soviet mentality that (as noted by Cherniy, 2003) “we should have the biggest... the fastest... the highest”, this inevitably resulted in the Soviets constructing not just the largest factory ship ever built, but several of them. It is noteworthy that the expansion of whaling was relatively timid compared to the development of Soviet fisheries, where hundreds of large-sized vessels were operating (Cherniy, 2003; Chuksin, 2006).

Even if it were known that whales were being killed illegally and in high numbers, this would not have been a concern for the majority of people. It is worth noting that, in the major domestic scandal of Soviet whaling, which led to the downfall of the former socialist hero Captain Solyanik (Fig. 3), the main focus of discussion was his tyrannical mistreatment of fleet whalers (Sakhnin, 1965); the huge illegal catches that Solyanik oversaw were never mentioned (Berzin, 2008).

Overall, while the industry undoubtedly also employed many honest people, the system exerted complete control and could easily suppress or ignore the actions of individuals that disagreed with the practices or politics of whaling.

Public Stance at the IWC

The positions and opinions of the U.S.S.R. delegation to the IWC evolved significantly during the first 20 years of the organization’s history. Annual IWC meetings had started in 1949, and for the first few years (until the early 1960’s) the U.S.S.R. was officially standing on the side of conservation and appropriate management actions in order to preserve the stocks of whales. While falsifying the true catches beginning in 1948 (starting with the Antarctic), the Soviet Union’s commissioner sometimes vocally opposed the opening of the Antarctic Sanctuary to whaling (IWC, 1955a) and fully supported a lower total catch limit (IWC, 1956a):

“The Soviet delegation expressed the view that without sufficient scientific investigation of this problem, and taking into account the need to conserve the stocks of whales, they could not support a recommendation by the Sub-Committee to open the sanctuary” (IWC, 1955a:19).

“The Soviet representatives consider that the reduction to 14,500 units represents a correct and a progressive step toward the conservation of the whale stocks and were surprised that seven countries found it necessary to lodge objection” (IWC, 1956a:24).

When the Soviets had only one out of the then-total of 16–20 fleets that were operating, and therefore could not kill and process very many whales, it was easy to publicly support all conservation measures while catching as many whales as they could.

But as the Soviets expanded their whaling industry, the situation changed. The U.S.S.R. ignored the continued discussion regarding the depletion of whale stocks and the lowering of the total catch limit, while adding three large fleets to its Antarctic operations. At the end of the 1950’s, it is unlikely that either the Soviet delegation to IWC or those of other nations could have imagined that in just a few years the total catch limit would be reduced from 16,000 Blue Whale Units¹⁰ (BWU) to 9,000 BWU in the 1963–64 season, and then to 4,500 BWU in 1965–66 (IWC, 1965a, 1967, 1968a). The obvious decline in whale stocks and these relatively rapid changes in the catch limit, together with the diminishing number

¹⁰The Blue Whale Unit (BWU) was a unit with which to set total catch. Introduced in 1931 to limit production of whale oil for the market, the BWU was based upon the assumption that the amount of oil obtained from one blue whale is similar to that from 2 fin, or 2.5 humpbacks, or 6 sei whales. Therefore, 1 BWU = 1 blue = 2 fin = 2.5 humpback = 6 sei whales. In working under the BWU catch limit, whalers were not restricted in the species makeup of the catch; as noted below, this represented a huge flaw in conservation management.

of countries engaged in whaling, all forced the Soviet Union to become a more prominent player in the discussions and decisions made at the IWC. The evolution of the Soviet position on various issues is discussed in more detail below.

Catch Limits and Abundance Estimates

Discussion at IWC meetings on the potentially deteriorating status of whale populations began in the mid 1950's (IWC, 1953; 1955b). Already before WWII all whaling nations were aware that blue and humpback whales were depleted, with the main whaling pressure having switched to fin whales (Ruud, 1956). For many years arguments continued to center on the uncertainties in abundance estimates, with this being used as an excuse to delay management actions.

As whaling effort continued to expand from the late 1940's to the early 1960's, the depletion of fin whale stocks and continued declines in blue and humpback whales were discussed to varying degrees at each IWC meeting, beginning in 1953 (IWC, 1953). At that time the Soviet delegation played no prominent role besides voting in support of a few conservation measures proposed at the meetings, as noted above. There was no need for the U.S.S.R. to intervene on any of these matters because other whaling countries, and in particular the Netherlands¹¹, were preventing (or at least arguing against) any restrictions on the catch limit. Heazle (2006) describes this political move as use of "scientific uncertainty" that at the IWC meetings found wide use first by the Dutch scientists and commissioners and which was later employed by other countries.

At the 1954 meeting, the Commission did not agree to lower the catch limit by 500 BWU from the original

15,500, despite the fact that the IWC's Scientific Sub-Committee was recommending a cut to 14,500 BWU (IWC, 1955a). At the next year's meeting (1955) the lower catch limit of 15,000 BWU was agreed, but a proposal for a further reduction for 1956-57 to 14,500 BWU met strong opposition from a few whaling nations, and, as noted above, the Soviet commissioner was the first one to criticize them for their behavior.

By 1957 the IWC expressed "a unanimous view that fin whales are in the process of being seriously depleted." There was actually no unanimity, because the Netherlands saw no signs of depletion nor any need to reduce the catch; on the contrary, in 1958 the Dutch commissioner proposed that the catch limit be increased to 16,000 BWU. In the end, a compromise limit of 14,500 BWU was agreed (IWC, 1958:22).

The situation at the IWC was further complicated by discussions between the five main whaling nations, beginning in 1958, regarding the splitting of the total catch limit into national shares (or quotas), in an effort to halt the ongoing and unregulated competition for the largest share on the whaling grounds. For reasons relating to a provision in the Convention, these discussions were held outside of the IWC forum; this is discussed further below.

In 1958, despite surprising other whaling nations with their announcement of a planned large expansion in operations, the Soviet Union was relatively quiet and even offered a positive comment in the Chairman's report (IWC, 1959a:18): "the number of under-sized whales taken by the U.S.S.R. was less in 1957/58 than in the previous season; this being attributable to the larger number of catchers affording the gunners a chance of selecting whales more carefully."

This was partly true, but it did not tell the whole story. A formerly secret Soviet whaling industry report mentioned extensive catches starting that year, with the *Slava* fleet working on large aggregations of humpback whales off the Balleny Islands

and in the Ross Sea a few months in a row. While they certainly took large animals when they were encountered, they killed everything else too, regardless of age or size, and including calves.

The continued failure of the Commission to reach agreement on the size of a total catch limit provided an option for every country to set voluntary limits (IWC, 1960a). While Norwegian, Dutch, and English fleets could not reach the limits that were set, the total catch for the 1959-60 season was 15,512 BWU, well above a previously set 14,500 BWU limit. This occurred despite "the views expressed by the majority of the members of the former Scientific Sub-Committee that the stocks were declining and the rate of catching was excessive. It was felt that drastic restrictions were called for... It was felt the combined evidence leaves no room for doubt of a decline of the fin whale stocks in the Antarctic, and in principle the Committee were unanimously agreed on this conclusion" (IWC, 1960a:5).

This unfortunate situation persisted despite an obvious decline in whale stocks and catches generally. There followed a suggestion to form a small group of independent experts "to carry out an independent scientific assessment of the conditions of the whale stocks in the Antarctic which would provide a scientific basis for the consideration of appropriate conservation measures by the Commission" (IWC, 1962a:6). This group, the so-called Committee of Three (known more informally as the "Three Wise Men") consisting of Sidney Holt, Doug Chapman, and Kay (Kenneth) Radway Allen, was duly constituted and set to work; the result would be the first formal assessments of whale stocks by the IWC (and this only for the Antarctic—no such assessments were conducted for the North Pacific until comparatively recently).

During all of this time, the U.S.S.R. delegation was content to remain on the sidelines of the debate, while officially agreeing to limit its catch to 3,000 BWU (a 20% share of the total

¹¹From that time on, different Dutch scientists, notably Professor E. J. Slijper, consistently refused to accept any stock assessments that showed a decline in populations and objected to any lowering of the catch limit. This resistance significantly slowed the progress of management actions by the IWC (IWC, 1955a, 1957a, 1958, 1959a).

catch limit) during three consecutive seasons from 1959–60 to 1961–62. At the same time, paradoxically, the number of Soviet whaling fleets in the Antarctic increased from two to four (IWC, 1962a). It is curious that there was no official discussion at IWC of any suspicions raised by this expansion, given that the U.S.S.R.'s quota could easily have been taken by just the existing two fleets. Somehow the U.S.S.R. managed to avoid any confrontations regarding this paradox, and it is possible that other countries assumed that this situation was due to the unique nature of the Soviet economic system and thus believed that the U.S.S.R.'s whaling was simply unprofitable (Tønnessen and Johnsen, 1982).

The Soviet position on catch limits changed very quickly when the first results of the Committee of Three's analysis were published (IWC, 1962b). As a result of the Committee's work, the catch limit was reduced to 9,000 BWU for the 1963–64 season, and subsequently to 4,500 BWU for the following years (IWC, 1965a, 1966a, 1967, 1968a).

It became increasingly difficult for the U.S.S.R. to explain how four large whaling fleets could be employed in taking only a 20% share of 4,500 BWU; but of course in reality the internal Soviet production plan targets were secretly being set without any concern for the IWC's catch limit.¹² Accordingly, in just a couple of years the Soviet position changed from one that was mildly conservation oriented to an almost permanent state of disagreement regarding assessments and catch limits (an exception being more favorable assessments conducted by the Japanese), and the U.S.S.R. then began to follow the long-established contrary position of the Dutch and Japanese delegations. From then on, every meeting was characterized by

¹²The actual production and catches of the *Sovetskaya Rossiya* whaling fleet in 1965–66 season was higher than in 1961–62 (5,824 and 4,068 whales, respectively, with the production target exceeded in both years at 114% and 110% of the plan) (Berzin et al., 1962; Anonymous, 1966).

objections from the Soviet Union and Japan on anything related to reducing catches (IWC, 1966a, 1967, 1969a).

National Quotas Allocation

Article V of the ICRW specifically prohibits the division of catches into national quotas (IWC, 1950a). This was intended to prevent monopolization of the whaling resources by already established whaling countries (Tønnessen and Johnsen, 1982). Accordingly, it was impossible to establish any national quotas within the framework of the IWC, and if any such quotas were to be established they would have to be agreed voluntarily outside the IWC forum.

It quickly became obvious that the lack of IWC-sanctioned national quotas created a race between the fleets to kill as many whales (i.e., to take as much of the quota) as possible, a situation that IWC members termed “the Whaling Olympics”.¹³ In 1958, “unofficial” discussions among the five main whaling countries began (IWC, 1959b) to divide the IWC's annual catch limit of 15,000 BWU (note that the Scientific Committee, mindful of what many saw as a decline in stocks, suggested 10,000 BWU for that year).

The announcement by the Soviet delegation in 1958 of their planned addition of four new large fleets in the Antarctic was followed by an offer that the U.S.S.R. be allocated 20% of the total catch limit on the condition that no more than three fleets could be added in the next 7 years; the Soviets agreed, and did not participate in discussions regarding the remainder of the catch limit (IWC, 1959b, 1961a).

This allocation represented the easiest part of the national quota agreement. Arguments regarding the division of the remaining 80% between Norway, England, Japan, and the Netherlands dragged on with little success for 3 years before shares were finally agreed (IWC, 1960a, 1961a, 1962c). This inability to reach an agreement on national quotas was the reason that Norway, Japan, and the

¹³Sidney Holt, personal commun., Sept. 2010.

Netherlands withdrew from the Convention for a few years, making it impossible to agree upon a catch limit. In turn, this led to voluntary limits set by each whaling country, as a result of which the catches were higher than the previously agreed total catch limits and much higher than had been recommended by the Scientific Committee (IWC, 1960b, 1961b, 1962a).

The resulting shares agreed for the 1962 whaling season were as follows: Japan 33%, Norway 32%, U.S.S.R. 20%, United Kingdom 9%, and the Netherlands 6% (with the number of fleets being seven, seven, four, two, and one, respectively) (IWC, 1962d). This agreement, as we now know, was effectively irrelevant to the U.S.S.R.'s whaling because the true Soviet catches significantly exceeded 20% of the total: during the 1962–63 season the Soviet whalers actually caught 4,353.3 of the total 12,844 BWU, or almost 34% (Allison, 2011).

Prolonged arguments on this topic among the other countries ensured that little progress could be made with other important issues (one of them being the International Observer Scheme, which we discuss below). Already in 1964–65, the situation regarding the number of fleets operating changed significantly: there were seven whaling fleets for Japan, four for the Soviet Union, and four operated by Norway. The catch shares at this point were: Japan 52%, Norway 28%, and the Soviet Union 20% (IWC, 1966b). The Japanese portion increased as a result of Japan buying a number of British, Norwegian, and Dutch fleets primarily to secure their catch shares, thus investing a large amount of money in continued whaling (IWC, 1964a, 1965a, 1966b).

The Soviet Union insisted on a new share agreement prior to the introduction of an International Observer Scheme (IWC, 1966b). It is not clear whether this demand was an attempt to actually obtain a larger share of the catch limit or (probably more realistically) represented a strategy to delay the implementation of international observers on board factory ships. Ja-

pan, having invested heavily in new whaling fleets for their catch share, was unwilling to readily consent to a new quota share agreement.

Nonetheless, a new national catch quota agreement was eventually reached in 1966, dividing the total catch of 3,500 BWU into 1,633 BWU (46.6%) for four Japanese fleets, 800 BWU (22.9%) for two Norwegian, and 1,067 BWU (30.5%) for three Soviet fleets (IWC, 1968b). In reality, the whaling fleet *Sovetskaya Rossiya* production report for 1966–67 season notes that this fleet alone killed 7,373 whales (=1,017.8 BWU +3,487 sperm whales) and exceeded that year's plan target by 36.4% (Anonymous, 1967). None of these catch numbers seemed to be sufficient for large whaling fleets. Similar arrangements (with constantly decreasing shares) were reached in the following years before the BWU system was abandoned in favor of individual species quotas (IWC, 1969b, 1970a, 1971a).

The Politics of Delay: the International Observer Scheme Debate

The IWC discussions surrounding the proposed development of an International Observer Scheme (IOS) were to go on for many years before this scheme was finally implemented in 1972. The IOS represented one of the main confrontation points for the U.S.S.R., and the IWC record shows strong participation by the Soviet delegation on this issue (IWC, 1962a, 1964a, 1966b). Indeed, in retrospect it is clear that the potential introduction of international observers was the most critical issue facing the U.S.S.R. at IWC, given its reliance on illegal catches to meet its production targets.

Already in 1961 a secret Soviet whaling report was considering the change in catches that would result if the IOS was introduced (Berzin et al., 1962:82):

“Discussing the prospects of whaling is impossible without taking into account the real possibility of the introduction of international

control on all whaling fleets in the very near future.

Should international inspection occur, the whaling would be based upon some fin and blue whales, with a majority of the catch consisting of sei and sperm whales. Humpbacks will disappear from the catch completely, as it is pointless to talk about any reasonable level of catch within the [regulations regarding] time and size established by the Convention given the current conditions of stocks...

One can give the following number from data presented during the whaling meeting in Moscow in September of this year: 60% of whales killed by the Soviet whaling fleets in the Antarctic represented violations of the whaling regulations. All of these whales would be excluded from the catch [with the introduction of international observers].”

During that season the total catch for the *Sovetskaya Rossiya* whaling fleet was 5,046 whales and consisted of 131 blue, 796 fin, 2,176 humpback, 646 sei, 1,274 sperm, and 23 right whales (Anonymous, 1962). In other available reports, the topic of the IOS is not even mentioned, while discussing possible changes in catches and a continuing increase in plan targets.

For many years, often assisted by other countries (notably Japan), the Soviet Union was able to delay the introduction of the IOS. The first proposal regarding an IOS came from Norway at the IWC meeting in 1954, but due to procedural requirements it was not officially included on the agenda until the 1957 meeting (IWC, 1956b, 1958). During the next few years (1959–61) the discussion was hindered by the withdrawal from the Convention of Norway and the Netherlands (IWC, 1960a, 1961a, 1962a), and the U.S.S.R. declined to join meetings to discuss the matter “on the ground that such a scheme would be valueless so long as any of the countries engaging in pelagic whaling in the Antarctic re-

main outside of the Convention. The U.S.S.R. confirmed their readiness to take part in any discussion when all the countries were equally bound...” (IWC, 1960a:7).

A few years later, once this issue was resolved and the catch shares agreed, the Soviet Union indicated that “no useful discussion on the IOS could be held until after the Arrangements for the Regulation of Antarctic Pelagic Whaling signed in London in June 1962 had been ratified by the five governments concerned¹⁴” (IWC, 1964a:7).

Even before the national quotas were agreed, the Soviet commissioner (at that time this post was held by the Minister of Fisheries, Alexander Ishkov¹⁵) stated that observers for the Soviet whaling fleets should come only from communist countries, thus introducing an additional obstacle to any agreement (Tønnessen and Johnsen, 1982; Berzin, 2008).

Draft rules for an IOS had been agreed at the IWC's 1963 meeting (IWC, 1965a); however the scheme itself did not materialize. As we noted in the “National Shares” section, the Soviet Union insisted upon renegotiation of catch shares before they would accept anything else:

“The Soviet Government could not see their way to implement the Scheme without prior revision of the arrangement governing national quotas on a basis satisfactory to them, while the Japanese Government were not willing to discuss such matters until implementation rules and the voluntary catch limit for the 1964–65 season had been accepted by all the parties” (IWC, 1966b:9).

¹⁴This was an agreement of catch shares between five whaling countries, and its ratification took another year (IWC, 1964a).

¹⁵Alexandr Ishkov was the U.S.S.R. Minister of Fisheries for many years (1940–50 and 1954–79) and was the driving force behind the expansion of Soviet whaling and fisheries with many large factory ships that swept the world's oceans. He was also the main protector and advocate of Captain Solyanik during the latter's infamous scandal in 1965 (Sakhnin, 1965).

The same reason was used by the Soviets at the following IWC meeting in 1965. Meanwhile, the Commission “strongly requested” that an IOS be implemented as quickly as possible, fearing that when the agreement on international observers expired after the 1965–66 season the scheme would not come into existence at all (IWC, 1967).

“With regard to the assurances in the resolution invited from the active pelagic whaling nations, two were able to give these but the delegation of the Union of Soviet Socialist Republics stated that, while they were in favor of implementation of the scheme in the coming season, their assurance must be qualified by the reservation that both the quota of the whole catch and the International Observer Scheme should be extended to both factory ships and to all land stations catching Antarctic whales, and that to implement the International Observer Scheme it would be necessary to solve on a just basis the problem of re-allocation of national quotas between the countries concerned. It was agreed that talks on these matters would be continued but no solution had been worked out by the end of the Commission’s meeting” (IWC, 1967:22).

Meanwhile, the four Soviet whaling fleets working in the Antarctic during the 1964–65 season were catching large numbers of blue (1,018), humpback (4,489), and right (350) whales, all of which were protected by that time (Allison, 2011).

After all the discussion, the existing IOS agreement expired “without being brought into operation” at the end of the 1965–66 season, and at the eighteenth meeting (1966), a working group was established to develop a new scheme (IWC, 1968a). In the following year different schemes were discussed at special meetings. The Soviet delegation supported a proposal that included both land stations and pelagic operations, while the other del-

egations were in favor of separating the regulation of these two branches of the industry (IWC, 1969c). Because the IOS scheme represented an amendment to the IWC Schedule, and because the amendment process was lengthy (see details below), the IWC decided to postpone further discussion until the following year (IWC, 1969a).

Progress on implementing an IOS came to a halt for another 4 years, in large part due to the lengthy process involved in enacting any amendment to the schedule. However, it was finally accepted in 1971 (IWC, 1950b, 1970b, 1971b, 1972, 1973). During the interminable discussion of the IOS, the Soviet Union had three large whaling fleets operating in the Antarctic with a catch quota of less than 1,000 BWU, and the Soviets were probably aware that these would be the final years of unrestricted illegal catches. The actual catches for the three Soviet fleets were as follows: 1968–69: 2,674.3 BWU +5,441 sperm whales; 1969–70: 2,569.8 BWU +7,424 sperm whales; 1970–71: 2,404.6 BWU +6,742 sperm whales; and in 1971–72: 2,133.7 BWU +11,221 sperm whales (Allison, 2011).

Once international observers were introduced onto each whaling factory ship and at all land stations, the belief was that no illegal catches could now be made. However, according to an agreed arrangement, the Soviet whaling fleets had Japanese observers and vice versa. While the U.S.S.R.’s illegal whaling was revealed in 1994 (Yablokov, 1994), it took even longer to discover that some illegal catches and data falsifications continued on the Soviet fleets despite implementation of the IOS.

At least some of these catches were made with the knowledge and complicity of Japanese observers, at a time when the Soviet Union was selling whale meat to Japan (Mikhalev et al., 2009; Veinger¹⁶). Thus, despite the absurdly protracted 17-year period between when the idea of an IOS

was first discussed and its eventual implementation—as noted by Tønnessen and Johnsen (1982), a number of countries showed a “remarkable degree of inventiveness in evading this issue”—the final scheme still failed to ensure complete compliance with IWC regulations.

Flaws in the Convention and the Mismanagement of Whaling

The Whaling Convention of 1946 was created with at least nominally good intentions to better manage the whaling industry, and it stemmed from a recognition by the parties of the need for conservation measures to preserve whale populations for some sort of sustainable hunting, and to protect them from the fate that had occurred to other species many times before in different parts of the world. In the effort to create an agreement and keep all of the whaling countries a part of the Convention, a number of Articles and definitions were created in such a way that these later served as loopholes with which whalers could evade almost any IWC decision (Tønnessen and Johnsen, 1982).

A number of authors, including some writing in the early years of the IWC (e.g., Ruud, 1956) described weaknesses in the Convention (Tønnessen and Johnsen, 1982). Almost all of these were used by the Soviet Union and other whaling countries. The two utilized the most by the Soviet Union were Article VIII of the ICRW, which permitted “special permit” whaling for scientific research (outside any quotas or other restrictions), and the so-called “objection” procedure.

Article VIII was used often by the U.S.S.R. in the Antarctic (IWC, 1960a, 1962a, 1964a), yet none of these scientific takes resulted in publications.¹⁷ The objection procedure

¹⁶Veinger, G. TINRO Vladivostok, personal commun. March 2008.

¹⁷It is worth noting here that since 1987 Japan has used special permit whaling to kill thousands of whales in the Southern Ocean and the North Pacific (Clapham et al., 2007). That these catches were driven not by scientific need but by a desire to circumvent the IWC’s moratorium on whaling was affirmed in March 2014 by the International Court of Justice (<http://www.icjci.org/docket/files/148/18136.pdf>).

permits a member state to lodge, within 90 days, an objection to any IWC decision and thus not be bound by it (IWC, 1950a). This loophole was used by the Soviet Union (together with others) many times to evade decisions such as lowering of the total catch limit (IWC, 1966a, 1967, 1973), protection of blue whales in different oceans (IWC, 1956c, 1957b, 1961a, 1962a), and finally passage in 1982 of the Moratorium on commercial whaling (IWC, 1983). Indeed, the latter objection was never withdrawn; consequently, if Russia should so desire they could officially resume commercial whaling at any time, as Norway continues to do under the same objection clause.

In addition to major weaknesses of the Convention, the political or (primarily) economic interests of many countries made the initial intentions of the Convention and any conservation efforts ineffective for many years. It also ensured a persistent failure to place significant limitations on the whaling industry in order to preserve whale resources and thus to maintain the long-term existence of this industry for the future.

As noted by Holt¹⁸, in 1957 “the USA considered that the balance between scientific and moral considerations had deteriorated in this meeting and that governments were losing sight of what had been their prime objectives in drawing up the ICRW. Conservation had taken second place to national interest.” The reality of the situation was that the desire for immediate profit in the face of large capital investments was invariably favored over any science-based population estimates or the resulting conservative management recommendations.

Besides the discussions in which Soviet participation stalled progress, a few topics in the IWC agenda were discussed for many years among other countries. First, there was endless disagreement on the total catch limit with a consequent inability to rein in catches to an acceptable level until it

was too late. Here, the major players were Japan, the Netherlands, and Norway (IWC, 1966a, 1967).

For many years, starting in 1955, the catch level recommended by the Scientific Committee was routinely voted down (or not even seen as an option), and the total catch limit (if agreed at all) was set much higher, mainly in consideration of the economic interests of the whaling countries (IWC, 1956c, 1958, 1960a, 1961a). During discussions about national shares, one country managed to hold up any agreement with demands regarding the share that, ironically, they were not even able to catch:

“Every time a solution was round the corner, it was postponed in the face of new demands. In the end, the dispute revolved around a mere 70 units, for the sake of which the Netherlands was prepared to jeopardize the entire agreement...

When the Netherlands was offered a “bonus” of 80 units, which it would have to catch within the season fixed by the IWC, this, too, was turned down, with a demand for 90 units, and on this difference of 10 units the Conference was deadlocked! There is no doubt that as far as the Netherlands was concerned the size of the quota was not the most important matter: the important thing was to ensure that no agreement was reached, so that the company could carry on with unrestricted catching for as many seasons as possible” (Tønnessen and Johnsen, 1982:602–603).

The irony here was, that having put the IWC through all of this, the Dutch whaling fleet was unable to catch anything close to the share on which they had so forcefully insisted. The final agreement allocated the Netherlands 6% of the total catch limit (or 900 of 15,000 BWU); yet the year before the shares were agreed (1961–62), the Dutch whalers caught only 615 BWU, with a much earlier start to the season and no restrictions (IWC, 1962a). The next season the Netherlands’ catch

was even smaller, at 457 BWU (IWC, 1964a).

Another major gap in achieving a desired balance between catches and preservation of resources was a protracted refusal to switch from a total catch limit expressed in BWU to species-specific catch limits (IWC, 1955a, 1965b, 1970b). This proposal would have done away with one of the more disastrous decisions ever made by the IWC, since the BWU system allowed whalers to expend their share however they chose to, regardless of the varying conservation status of particular species or populations. The discussion on switching to catch limits set by species began in 1956, and the idea was vigorously opposed by Norway and the Netherlands.

In 1969, 13 years after the start of that discussion, the IWC Chairman’s Report describes the situation as follows (IWC, 1971b:20):

“The Scientific Committee reaffirms its opinion that from the viewpoint of maintaining all stocks, it was desirable to set separate quotas by species for the Antarctic catch rather than in terms of blue whale units. The Technical Commission did not recommend any action in regard to the Schedule but felt the Commission should keep a watchful eye on the situation.”

Only in 1971 did the Commission finally agree to set separate catches, first in the North Pacific and then in 1972 for the Antarctic (IWC, 1972, 1973). In the words of Sidney Holt¹⁸ “The BWU argument had at last been won—when there were hardly any ‘BWUs’ left in the ocean.”

Frequently when discussion on a particular topic was reaching a stalemate, the temporary solution was to put off consideration of any decision until the following year. Yet little change or progress was made at the next meeting, and as a result the situation remained deadlocked year after year, thus keeping the old regulations comfortably in place (IWC,

¹⁸Holt, S. *manuscr. in prep.*, 2014.

1960a, 1961a, 1962c, 1970b, 1971b, 1972).

Did Anyone Suspect?

It is extremely difficult to believe that, during the three decades in which the U.S.S.R. was illegally plundering whale populations, no one realized or suspected that these catches were taking place. In reality there were a number of hints regarding the truth of the situation, and many indirect accusations regarding the Soviet whaling industry ignoring the regulations on whaling; however, these suspicions never resulted in any effective action, and while there was much discussion and criticism behind the scenes, objections were never formally raised at the IWC.

Dorsey (2013) claims that there was frequent discussion of Soviet “cheating” in the early 1950’s, and states that the prominent British whaler H.K. Salvesen attempted (unsuccessfully) to persuade others to protest this behavior by boycotting the 1954 IWC meeting, which was hosted by Moscow. These suspicions were prompted primarily by observations of Soviet whalers killing animals out of season (Dorsey, 2013). Nonetheless, given that Soviet under-reporting was at that time rather minimal (far below the large Antarctic catches which began later in that decade), this may have in part reflected a general (perhaps even ideological) distrust of the U.S.S.R.

Dramatic signs that something untoward was happening were seen in the early 1960’s when populations of humpback whales off eastern Australia and Oceania collapsed in just a few years, forcing a closure of land whaling stations in eastern Australia and New Zealand (Clapham et al., 2009). During its 1963 meeting the Commission “took note” of a very sharp increase in humpback whale mortality in Groups IV and V (those feeding in the Antarctic south of Australia); the only plausible explanation was that large illegal catches were being made. The data for this came from the final report of the Committee of Three (IWC, 1964b).

Shortly afterwards the concern was echoed by Chittleborough (1965), who, while not naming the country involved, provided a hint of who was responsible based upon the return of two Discovery tags that had been fired into humpback whales but which were reported to the IWC as having been recovered in a sperm whale and a fin whale. These tags had been reported (probably as an oversight) by Soviet whaling fleets. However, no further discussion or investigation followed.

Sidney Holt, a member of the Committee of Three, spoke with Soviet fleet captain Alexey Solyanik at one of the IWC meetings in the early 1960’s.¹³ In that conversation, Solyanik confided to Holt that the Committee of Three “should not waste too much time” attempting to figure out the Soviet data.

The Committee early on saw that the Soviet whaling data had strange characteristics, such as that the Catch Per Unit of Effort (CPUE) data for the U.S.S.R. were clearly wrong, as was the distribution of length measurements. Simply put, all other nations showed a consistent decline in CPUE as well as in average length, but the Soviet data were, in the words of Holt, “all over the place.”¹⁹ Data from other countries also had inconsistencies but the deviations could be explained, so the Committee of Three simply ignored most of the Soviet catch and effort data while analyzing the rest of the catches.¹³Holt¹⁸ also describes that:

“there were many comments made both at the IWC Committee and in the corridors about the Soviet factories whaling where and when they should not have been: after the close of the season, before its opening, in temperate waters... Few of these observations got into final reports, but some of them are in the unpublished reports of the Technical and Infraction Committees.”

Apparently no one at the time guessed the extent of the illegal catch-

¹⁹Holt, Sidney, personal commun., Mar. 2013.

es, but the regularity of such reports might have suggested that these reflected a systematic program of illegal takes. The Soviets explained the early arrivals and late departures of the fleets from the region by claiming that they were making stops in the tropics in order to train harpooners.²⁰

While many seemed to be suspicious of the way that Soviet whaling had operated, others had a different view. In a paper on North Pacific humpback whales, the Japanese scientist Masaharu Nishiwaki (1959:76) noted (with naïve optimism):

“Although there is an opinion that it is much better to catch as many whales as possible than to leave them to the unregulated operation by U.S.S.R. whaling industry, the author believes that U.S.S.R. would not deplete the whale stock on which her industry depended.”

Nishiwaki did not explain where this opinion originated, but it is apparent from this that suspicions about Soviet whaling already existed in the 1950’s.

In 1960, a series of meetings was held in Norway in which whaling companies and authorities discussed different conditions under which they might rejoin the Convention (Tønnesen and Johnsen, 1982:601). One of the main topics at these meetings was Soviet whaling:

“The serious charge was directed against the Russians that, when they voted against all proposals for extending catching and the catching period, and against a suspension of the maximum limit, ‘the reason must be that the Russians do not adhere to the Convention and that this is merely regarded by the Russians as imposing restrictions on their competitors’.”

However, none of these charges were voiced at the IWC meetings out of fear that the Soviet Union would withdraw from any agreements, and that no ac-

²⁰Holt, Sidney, personal commun., May 2012.

cord could be reached if Norway was to accuse them of blatant violations of the Convention (Tønnessen and Johnsen, 1982; Dorsey, 2013).

Another, and probably more significant, problem was that there was no system within the ICRW to allow for reporting of violations of others; the only mechanism concerned self-reporting of infractions. There was considerable resistance from whaling countries to anything that would allow inclusion of others' observations of infractions.¹⁹ Overall, it appears that others held strong suspicions that the U.S.S.R. was violating whaling regulations, but with little sense of the scale on which illegal catches were being made.

Was the U.S.S.R. Alone?

The first scandal regarding illegal whaling began with Aristotle Onassis' whaling factory ship *Olympic Challenger* and its fleet, which operated outside the IWC. The Japanese delegation presented documents proving the illegal catches by this fleet, which included catches of whales in prohibited times and places (IWC, 1956b).²¹

A few years later this discussion was renewed in Norway, mainly with regard to Soviet fleets. However, suspicions were also voiced by Norwegian whalers regarding similar actions by the Japanese, at least concerning violations of minimum length restrictions in catches of certain species. Certainly, this would at least partly explain the strong resistance on the part of Japan to implementation of the IOS (Tønnessen and Johnsen, 1982).

At the 1964 IWC meeting, the Scientific Committee highlighted the likelihood that whalers were misreporting length data, specifically by adding a few feet to the reported lengths of animals below the minimum size limit to make them look "legal" (IWC, 1965c:28–29):

²¹Technically, this was "pirate whaling" rather than "illegal whaling," because the *Olympic Challenger*, which operated between 1950 and 1956, was registered in Panama and operated by the Olympic Whaling Company of Uruguay, which was not a member of the IWC.

"The Committee have on several occasions called the Commission's attention to the regrettable fact that size frequencies as reported to the BIWS, often seem unnatural, because very many whales are reported at or just above the minimum lengths in force. This has been the case especially for sperm whales in various parts of the world... Until such effective management is attained it is very important that minimum lengths should be retained and enforced. Unfortunately, it is all too clear that they are not being enforced."

The problem of violating the minimum size limit continued (IWC, 1967:19):

"while the minimum size limit—38 feet—should be enough to save the great majority of females, massive evidence was available to the Commission to show that this regulation was being broken on a large scale."

After the truth regarding the Soviet illegal catches was revealed, Yablokov informed Sidney Holt that:

"Unofficial communications from Japanese colleagues showed that the Japanese whaling fleets were also involved in a large-scale falsifications similar to those described 'regarding the USSR', and the officials in the USSR were also aware of this" (Holt¹⁸).

Similar opinions regarding Japanese violations were expressed by other Soviet scientists that worked on the Soviet whaling fleets (Mikhalev²²). Beginning in 1999, a prominent Japanese scientist and former whaling station manager published papers describing routine falsifications of length and sex data in sperm whale catches at Japanese land stations, together with falsified data on catches of Bryde's

²²Mikhalev, retired, interview in Odessa, Oct. 2008.

whales (Kasuya, 1999; Kasuya and Brownell, 1999, 2001; Kondo and Kasuya, 2002). It is significant that the latter included Bryde's whales taken even after the introduction in 1986 of the IWC's moratorium on commercial whaling.

The way this was accomplished is described by Watase (1995, not seen, cited by Watanabe, 2009): during a working day a catcher would kill a number of whales but would deliver only the largest animals to the factory ship; each catcher had "individual quotas"²³ and more bonus money was paid for large whales than small ones. The result was that Japan was greatly under-reporting baleen whale catches (with blue and fin whales being the main species), leading to significant under-estimates in the BIWS statistics. Watanabe (2009) estimates that the number of under-reported animals amounted to several hundred per fleet, and therefore potentially thousands for the Japanese industry as a whole.

It is worth noting that during the 1960's–70's Japan was involved in a number of joint whaling operations with non-IWC countries, from which all the meat and whale oil would go to Japan. This appears to have been a way of conducting whaling without the restrictions of the Convention (Tønnessen and Johnsen, 1982).

To date, no evidence has come to light of other illegal catches by Japanese pelagic whaling fleets, although given that whaling in Japan continues to be controlled by the government within a society that is traditionally not open (Hirata, 2005; as indeed was the case, to a much greater extent, with the former U.S.S.R.), significant political and cultural changes may be needed before this can be investigated further. The extent to which the pelagic fleets of Japan (or others) were engaged in illegal catches or data falsification is unclear. However, the revelations of Kondo and Kasuya (2002), together with the extensive violations of the

²³Such "individual quotas" were set because, in the early years after the World War II, the processing capacity of Japanese factory ships was limited, as were catch limits after 1964.

U.S.S.R., provide abundant evidence that, if a whaling nation wished to break the rules, there was little within the framework and procedures of the IWC to stop them from doing so.

A final point is that the development and expansion of Soviet whaling, including the campaign to make large-scale illegal catches, was overseen and promoted by a relatively small group of people, with Fisheries Minister Alexander Ishkov being the principal driver of the industry's actions. A somewhat similar situation occurs today in Japan: it is primarily because of the activities and advocacy of a limited number of people within the Japanese government that this highly subsidized industry continues to exist (Clapham et al., 2007; Morikawa, 2009).

Conclusions: Lessons for Today

"Fisheries management is interminable debate about the condition of fish stocks until all doubt is removed. And so are all the fish."
(John Gulland)

John Gulland's famously sardonic summary of the failures of commercial fishery management could be as easily applied to whaling. Certainly, the ICRW represents a textbook case of how a nominally well-intentioned, convention-based system began with major flaws that, given human nature, essentially guaranteed failure.

There are obvious parallels between whaling and the collapse, through mismanagement, of major commercial fisheries. A few prominent examples will suffice to illustrate the point, and various case studies are reviewed by Myers and Worm (2003), among others.

The fishery for Atlantic cod, *Gadus morhua*, off eastern Canada represents one of the most dramatic stock collapses in history, with biomass declining by two orders of magnitude over the period 1962–92 because of overfishing (Hutchings, 1996; Myers et al., 1997). Indeed, the collapse of the stock precipitated a trophic cascade (Frank et al., 2005), and serves as a prime example of what has been

termed "ecosystem overfishing" (Tegner and Dayton, 1999); such effects on ecosystems of the removal of predatory fish has been well documented elsewhere (e.g., Pauly et al., 1998).

Also in the North Atlantic, stocks of bluefin tuna, *Thunnus thynnus*, have greatly declined from overfishing, a situation that Safina and Klinger (2008) attribute to "the scientific part of the [management] process [being] corrupted by short-term economics and political lobbying." Scientists had sounded the alarm on Atlantic tunas as early as 1981, when the International Commission for the Conservation of Atlantic Tunas (ICCAT)'s Standing Committee on Research and Statistics recommended that catches from the western Atlantic stock "should be reduced to as near zero as feasible" (ICCAT, 1981).

Although North Atlantic tuna quotas were initially reduced by ICCAT, there followed inevitable pressure from industry, and from scientists hired by industry to refute the more conservative assessments (e.g. Hester, 1983). As a result, fishing quotas once again increased despite abundant evidence of severe depletion (ICCAT, 1982), and lack of enforcement compounded the problem through illegal fishing.

Southern bluefin tuna, *Thunnus maccoyii*, which like other tuna are a highly lucrative commercial species, have been similarly over-fished (Miyaki et al., 2004). The issue of inadequacy of monitoring was again highlighted in 2006 when Japan was shown to have illegally taken or imported bluefin for at least 20 years (Darby, 2006).

Finally, there is the example of deepwater fish such as orange roughy, *Hoplostethus atlanticus*, and Patagonian toothfish, *Dissostichus eleginoides*. Beginning in the 1960's, advancing technology permitted access to the habitats of these species (including seamounts), a development that coincided with the depletion of coastal fisheries (Roberts, 2002). Despite major uncertainty regarding stock size, and indications that the life history of some species (such as orange roughy) make them particularly vulnerable to

depletion, overfishing is widespread (Clark, 2009).

These, and other, examples demonstrate that commercial fisheries share many common management problems with whaling, including under-reporting, uncertainty regarding assessments, failure to heed evidence of declines, and lack of enforcement of rules and quotas leading to often extensive illegal catches.

As with many fisheries, the failure to adequately regulate whaling was especially likely, given the fact that heavy capital investment in the industry at its outset, when whales were abundant, provided a powerful incentive for the perpetuation of denial when stocks went into decline. While the U.S.S.R.'s three-decade campaign of illegal whaling was one of the most dramatic failures of the Convention, this simply compounded other major problems with the IWC's efforts to manage whale populations.

The ease with which countries could delay or block progressive management measures; the consistency with which scientific uncertainty was used to justify excessive catch limits (with the benefit of the doubt invariably given to the industry rather than the whales); the ability to object to and thus not be bound by any decision; all these problems ensured that even "legal" whaling proceeded without due regard to the true status of the resource on which the long-term future of the industry depended.

As is apparent from the above, whaling under the ICRW has been characterized by a wide and frequent range of infractions. These included frequently "adjusting" the lengths of some whales to comply with minimum size regulations, systematic falsifications in the Japanese coastal fishery and in pelagic blue whale catches, and the huge illegal catches of the U.S.S.R. Despite strong suspicions by some that the U.S.S.R. was engaged in illegal catches, IWC members chose never to tackle this issue head-on (and had no appropriate procedure to do so), and thus they ignored it.

Yet today, as some nations discuss the lifting of the Moratorium and a possible return to IWC-sanctioned commercial whaling, the nature of whaling inspections and oversight remains essentially where it was 40 years ago. Flaws in the observer system that allowed both the U.S.S.R. and Japan to operate illegally and falsify catch data on various scales have still not been addressed in the years following the revelations of these major violations of IWC rules.

In addition, there is presently still no provision for effectively enforcing whaling regulations or punishing violations, other than within and by the whaling nations concerned. Nonetheless, the whalers today continue to insist that their proposals for inspection and enforcement are adequate. The problems with this were summarized by Clapham et al. (2007) in a response to a pro-whaling article published by Morishita (2006):

“Morishita tells us that existing international and domestic oversight procedures ‘are adequate to ensure sustainable whaling’ and that the Revised Management Scheme (RMS)²⁴ ‘has not been agreed by the IWC because of delaying tactics of anti-whaling governments.’ Yet one of the biggest delays in implementation of the RMS has arisen from the refusal of Japan and other whaling nations to accept true transparency in the monitoring of whaling.

Both Norway and Japan have established DNA databases to archive reference material from legally killed whales as a check on the origin of products found in the market. However, both countries refuse to allow independent oversight or third-party monitoring of such databases and sampling schemes, and both take the position that market oversight lies outside the jurisdiction of the IWC. Given the quite recent history of

duplicity by Japan and others in catch reporting (and their dramatic parallels in illegal fishing), it is not surprising that the ‘anti-whaling nations’ view such recalcitrance with suspicion.”

The refusal to allow independent sampling of whale products sold in domestic markets could reasonably be viewed as evidence that the whaling nations know full well that their inspection scheme is flawed, since in an honest, truly transparent whaling industry, the only products that would be available for sale would be those from whales taken under agreed catch limits (whether set by the IWC, or by a particular nation under either Article VIII or the Convention’s objection clause). Yet in recent years genetic-based market surveys in Japan and Korea have consistently found species taken illegally or other inappropriate products for sale (Baker et al., 2000, 2007; Clapham et al., 2007).

Put simply, the principal lesson from all this seems to be that, given the opportunity to deceive, and in the absence of a genuinely effective monitoring system, cheating will indeed occur to a greater or lesser extent—whether it be in whaling or any other industry based on exploitation of a common resource. We are certainly not the first to make this point; numerous scholarly articles have discussed the consequences of absent enforcement, but the heart of the issue was rather more succinctly summarized by a French tuna boat captain named Roger Del Ponte after he was arrested for illegal fishing of Atlantic tuna:

“Everyone cheated. There were rules but we didn’t follow them. It’s like driving down the road. If I know there are no police, I’m going to speed.”²⁵

If the IWC’s current moratorium on commercial whaling is ever to be lifted, it must be accompanied by a truly

independent, transparent system of inspection and enforcement, and this must occur at every stage from catch to market. If it is not, then lessons from the U.S.S.R.’s illegal whaling—a global campaign that secretly and illegally killed almost 180,000 whales, and pushed some stocks to the brink of extinction—will not have been learned at all.

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²⁴The RMS includes the set of controls and inspection procedures to be put in place should commercial whaling recommence.

²⁵See <http://www.icij.org/project/lootingseasi/overviewblackmarketbluefin>.

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