



Sea Urchins From Canada

**Observations on
Russian IUU Sea Urchin Fishery
Unloading Operations
in Hanosaki Harbour, Hokkaido.**

**Report by:
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Introduction

Japan no longer has sufficient domestic urchin production capacity to supply its market and depends on imports of sea urchin and sea urchin products from around the world for much of its uni market. It has a vigorous trade with Russia for *Stongylocentrotus intermedius*, an urchin traditionally used and preferred in Japan. Without the imports the demand for the product could not be satisfied and the industry would suffer economic losses, including the reduced use of available production facilities.

Russia is a major supplier of sea urchins into Japan and has increased shipments of live product since 1998 from about 1,500 MT to upwards of 10,000 MT per year, a level which basically exceeds previous live urchin imports from all nations into Japan. There are two main flows of urchins from Russia into Northern Japan through the Ports of Hanosaki on the south-eastern edge of Hokkaido and Wakkanai on northern margin (Figure 1). The urchins coming into Wakkanai are harvested legally along the adjacent Russian coastline around Primoria and up around Sakhalin Island to the north. These fisheries are well regulated and controlled, thereby



Figure 1: The Island of Hokkaido.

allowing slower product flows which support price stability, and are seasonally affected by ice conditions from about mid-October to the end of March each year. In contrast, much of the product coming into Hanosaki is not affected by ice and is not regulated with the result that large landings often glut the market throughout the country between October and January, causing price declines and disrupting the market so much that regulated sources are rendered uneconomic. This has particularly affected the market for live Canadian Green Sea Urchins (GSU) as demand for higher priced product has basically collapsed in

response to the increased IUU supply.

The industry in Japan is however suffering because the volume coming from Russia is excessive with much of the excess being due to an Illegal, Unregulated and Unreported (IUU) urchin fishery in the Kurile Islands around Nemuro (Figure 2). The ramifications of this extend to the loss of domestic production capacity as trained and experienced workers are being forced to find other employment and are abandoning the industry. The IUU fishery is clearly unsustainable

over the long term but if the Japanese industry capacity deteriorates too much, it will not be able to take up the slack when the IUU supply collapses. Japanese industry sources acknowledge that eliminating the Russian trade is not in their interest but that getting 50% of the trade from Russia under some kind of regulated control would alleviate many of the problems. It would also extend the Russian supply so the otherwise inevitable collapse might just be avoided.

There are some complications to seeing such a transition. Ownership of Kurile Islands, including all of the islands marked on Figure 2, is disputed between Japan and Russia as the islands were seized by Russia in the closing days of WWII. There are ongoing discussions between the Russian and Japanese governments over the sovereignty of the islands although these appear to have hit an impasse as both countries have not so far been able to move off claims. In Russia's case this is likely due in part to the influence of quite strong nationalist sentiments and the need



Figure 2: Satellite shot of the Kurile Islands including the main IUU urchin grounds around the Hobomai Grp and Shikotan Isl.

for the Federal Government to retain the support of such groups for domestic political reasons. The continuing success of the transition of Russia to a modern democratic and more prosperous state will eventually reduce the influence of such groups and further progress towards an equitable settlement may be possible but this is not likely for some time yet. In the meantime, the unsustainable harvest(s) may make sense as viewed from a Russian perspective that it is better to get as much advantage out of the resources in as short a time as possible so Russia, as

opposed to Japan, gets the benefits before sovereignty of the islands reverts to Japan. It's a bit of an irony here but it may also make sense for Japan to promote such 'mining' activities despite the economic impacts to speed things along a bit. In short, the IUU fishery in the Kuriles is likely to continue until such time as the resource is depleted and/or more serious negotiations are underway.

There were some questions as to why the trade is not better controlled, particularly as both countries maintain substantial radar coverage over the border area at all times. The reason it seems lies largely in the remoteness of the Kuriles from the home base for the Russian Coast Guard (RCG) vessels. Russia has made a commitment to increase the RCG oversight in the area but the vessels involved work out of Vladivostok and the distance between their port and the Kuriles is too large to permit a constant presence. The Japanese authorities are constrained from keeping a better check on the legitimacy of each load. There are a number of other legal fisheries, including crab (landings @~ 20 - 30 KMT/yr), legal urchins (import and domestic),

scallops (domestic) and pollock (domestic), landing product at Hanosaki so the Japanese Coast Guard (JCG) is likewise hard-pressed to regulate all the traffic.

Still, it seems there is a bit of a disconnect here somewhere because the Russian boats with the illegal product are not apparently impeded whatsoever by the Japanese Coast Guard or Port Authorities. It seems that the RCG is the only authority with the ability to establish the legality of the product on board the vessels while the JCG is limited to only ensuring that the import documentation is in order and this may not reference the legal harvest licence documentation because it could be seen as an encroachment on Russian sovereignty.

At any rate, the combined legal and IUU urchin landings in Japan each year from the Kuriles total approximately 10,000 MT of urchins even though the official quota for the area has only been recently raised from 1,200 MT to 2,000 MT. This implies that about 8,000 MT are IUU urchins. The landed prices for this product range from about ¥150 /kg when the market is in poor shape to about ¥600/kg when it is strong. This compares with CIF prices for live Canadian GSU ranging between about ¥ 850- 1,020/kg which incorporates a shipment cost of about ¥295/kg which also applies to the approximate 20% throw-away weight for packaging.

The majority of the IUU fishery is reportedly prosecuted in the Hobomai Group out to Shikotan Island. The transit times to Hanosaki Port from these are in the neighbourhood of six hours so while stocks are reported in other areas of the Kuriles, the shipping distances and costs are that much greater. Still, the shipping cost for the currently fished Russian IUU product is reported to come in about ¥1/kg, so there would seem to be some room to extend out into other areas. There are also some reports of large stocks of old Green Sea Urchins, *S. droebachiensis*, around the eastern half of Etorufu Island, the Kurile lying furthest from Hokkaido, but these have never been fished and their condition etc. is reported to be pretty poor which, along with the extra transport costs involved, means fishing them is not worth the effort at this point.

The prices for the currently available Russian product, especially at the lower end, are very low and the volumes involved are such that the market is spending much more time in a weak condition because of an over-supply situation. As a result, many of the smaller processing companies in Northern Japan are (almost) forced to use the IUU product simply to keep their doors open. Legitimate urchin producers, including importers competing during the winter months when the Russian IUU fishery is active, and larger and perhaps more diversified processors are being severely disrupted as legally obtained product simply cannot compete.

The quota for the Kuriles was raised in 2005 although the reasons behind it are somewhat convoluted. In part it reflects the reality of the IUU harvest but on the other hand it simply disregards the over-harvesting that is occurring as a result. In one respect the government has (possibly) increased the proportion of the catch which is subject to taxation but on the other hand the stock depletion is not being factored in. The official Fisheries Institute resources for the Sakhalin area, which has jurisdiction over the Kuriles, are not sufficient to allow direct research to estimate the biomass and/or set area quotas in the Kuriles so they rely instead on a private contractor to conduct the work. The company involved apparently uses only the official Russian harvest estimates which do not recognize or acknowledge the IUU harvest as significant. The

contractors reportedly recycle the same data each year and they would seem to be factoring in some biomass increases in the area that might be expected because of the sustainable utilization

rate obtained from the official harvest numbers.



Figure 3: Mid-scale satellite shot of Nemuro and Hanosaki.

pollock, cod, scallops, clams etc. This port is on the southern coast of the Nemuro Peninsula and, because it is only about 30 miles from the Southwestern end of the Kurile Islands, is the main landing port for the IUU urchin fishery conducted in these islands by Russian fishermen.

Hanosaki Harbour

The delegation representing PUHA and the WCGUA viewed the unloading facilities and the tail end of an urchin packer unloading operation in Hanosaki Harbour just outside of Nemuro on the east coast of Hokkaido (Figure 3). The port is a major fishing harbour and services a number of domestic and foreign fishing vessels, landing sea urchins, crab, salmon,



Figure 4: Smaller scale satellite view of Hanosaki Port.

The harbour itself comprises a well developed basin approximately 2.5 km² surrounded on many sides by concrete jetties where the vessels are unloaded and the fishermen's equipment serviced (Figure 4). The tidal range in the area is apparently less than 2 metres (NOAA Tide predictor) so there is less of a need for floats as would be required in BC where the range is two to three times greater. As a bit of a side note, this harbour is apparently dedicated to commercial fishing traffic, including Coast Guard vessels, and no recreational vessels were seen in the harbour, a situation which is increasingly rare in Canada.

The approaches to the harbour are protected by a series of breakwaters and construction of harbour infrastructure is ongoing. There are six main jetty areas including an outer jetty for unloading large trap and trawl vessels (250 to 450'), a ~0.5 km² sub-basin on the NE part of the harbour for smaller fishing vessels (~ 35 - 80'), the main unloading basin with a number of warehouse facilities etc and a vessel storage area in the central part of the harbour. There is another jetty along the western edge of the harbour where foreign vessels were tied up and re-supplied during their stay.



Figure 5: Boats on rails for winter storage.

There were probably several hundred vessels in the harbour including perhaps 75 Japanese vessels, including squid boats (length ~ 80') and other vessels ranging in size from about 40 -150', which were run up on rails onshore for winter storage (Figure 5). There appeared to be number of buildings where the vessels could be worked on around the perimeter of these areas. There are also a number of fuel depots (Figure 6) and chandlery businesses in the area, supporting the claim that other sectors in the local business community derives significant benefits, and is at least somewhat dependent on, the Russian IUU fishery. Fishing harbours in Japan are unfailingly impressive in the extent and calibre of the facilities they provide to the



Figure 6: Fuel storage silos along eastern shore of Hanosaki Harbour. Note also the Japanese inshore fishery fishing vessels (~40 - 50') used by local fishery cooperative association(s).

commercial fleets.

The main unloading area is at the back of the main sub-basin in behind an inner (secondary?) breakwater, which can be seen in Figure 4, and which is just now being extended. This jetty is backed by a number of fairly large buildings (Figure 7) where the products are warehoused prior

to being loaded on trucks and shipped out for processing and distribution. All of the import product landed at Hanosaki is loaded into the warehouses where it is held until all of the import taxes are paid. There are about 10 companies importing the product but some of these use the same processors so it is difficult to determine exactly where the product is going, and because of



Figure 7: Main unloading jetty backed by the Hanosaki Fisheries Cooperative warehouse and with the winter storage rails to the left.

the nature of the organizations allegedly involved (Russian mafia and Japanese yakuza), it seemed prudent to limit the questions we asked.

Delivery Information and Observations

On the day we visited, five vessels, each with between perhaps 14 - 20 MT of IUU urchins, were unloaded. Vladimir Putin is visiting Japan early next week and the Russian Coast Guard (RCG) is reported to be increasing its presence along the border areas to intercept and stop deliveries for at least the duration of his visit but there was some thought that the packers would be stepping up their deliveries in advance. Other sources reported deliveries into Hanosaki on the



Figure 8: A Russian packer in Hanosaki Harbour.

Monday following our visit, the day after President Putin arrived in Tokyo, totalled 150 MT. The ease with which this product is landed fairly strongly suggests that the RCG efforts were not, and are not likely to be, particularly effective.

The Russian boats (example in Figure 8) are fairly easy to distinguish from Japanese vessels by

their paint jobs. Japanese fishing vessels are, to this authors knowledge, uniformly white with little to no rust showing through while the paint on the Russian boats is not as well maintained.

The total number of packers was probably at least twice the level seen in the harbour (~7) during our visit and that they rotated their deliveries so a number would remain on the grounds servicing the Russian dive fleet.

The total weight landed this day was about 80 MT and for the week about 300 MT, enough to glut the market and depress market prices even in Tokyo on the Tsukiji market to between ¥100 - 200 for a 200 gram tray. The urchins provided by the Russians is a traditionally used species known as the Japanese Green Sea Urchin, *Strongylocentrotus intermedius*, with small reddish-yellow gonads which have a nice sweet taste. The minimum 40 mm TD size for the urchins is defined in the delivery contracts between the Russians and their Japanese buyers. The product quality for these urchins generally peaks in April-May at about 15% vs around 5-6% now (Figure 9). The urchins also seem to have lots of feed in them right now suggesting good feeding



Figure 9: *S. intermedius* sea urchins from the Russian IUU fishery.

conditions. We did not enquire about the landed prices but the CIF prices at a number of plants are currently reported at between about ¥200 - 300 per kg. This would imply a landed price of about ¥150- 225 per kg with about 15-20% added in for import duties and transport.

The urchins are packed in cages supplied by the Japanese processors to the packer (Figure 10). Each tote holds about 35 kg of urchins and they seem well suited to the job at hand. When



Figure 10: Nested urchin cages ready for loading and stowage on a Russian packer.

empty, the cages nest so they take up less space but they each have a pair of rotatable handles which are moved to cover the top of the cages once they are filled with urchins (Figure 11) so the weight of overlying cages is supported by the cage as opposed to pressuring and crushing the urchins. Each packer will carry between about 400 - 2,000 cages, for a cumulative weight of between 14 - 70 MT. These are apparently either hand-bombed or otherwise lifted down to pallets on the jetty where they are taken by



Figure 11: Stacked cages with handles in filled configuration.

forklift to the storage warehouse owned by the Hanosaki Fisheries Association Cooperative Wholesale Market where they are held pending payment of the import taxes - a one time landing/import fee not influenced by weight, assessed by the customs officials and other agent and unloading fees prior to their removal for transport and distribution to various processors



Figure 12: Totes of urchins in the Hanosaki FCA warehouse.

(Figure 12). Excise taxes are charged on scallops (5%), shrimp (1%) and crab (4%) to limit competition with domestic producers while some other seafoods are not allowed in at all. The urchins have a remaining shelf-life of up to about 10 days if they are handled properly. The same expectations are likely true for GSU caught in Canada but the net shelf-life is shorter in this case because there is at

least one full day needed post-harvest to get the product to Hokkaido.

The Russian vessels generally arrive in the port by about 0700 hours and the unloading is



Figure 13: More urchins in Hanosaki warehouse.

generally completed by about 1000 hours. Deliveries were generally restricted to Mondays and Thursdays in past years but the customs department in Nemuro/Hanosaki was recently upgraded and deliveries are now made Monday through Friday. No deliveries are reported to occur on Saturday and Sunday but processing carries on through the weekend when the market is good, or just on the Saturdays when the market is not good, so it can be delivered on the Monday. There are about ten importers buying the Russian product but some of these use one or more custom processing facilities so it is difficult to say how many

processors are actually working on the product.

As mentioned, extra boats landed on this day because of the pending increased presence of RCG vessels in the Kuriles but, even with the expected heavy traffic, we did not see an actual unloading operation in progress. There was, however, a substantial amount of product in the



Figure 15: Forklift moving about 20 cages, or about 700 kg., of urchins from warehouse to truck.



Figure 14: Hand-bombing cages from forklift into truck.

warehouse (Figure 13) and a quite a bit of related activity going on to move the product along. There were a number of lift trucks seen in the port and a couple of the boats had booms with winches so one can only speculate on the extent of equipment used vs. hand-bombing and the actual rate (in kg/hr) the product is moved off the packers. We did however see the catch being moved off a large crab ship and it seemed that individual cartons were hand-bombed up onto the deck and moved, again by hand, onto pallets held aloft by a forklift. This might be the norm on the Russian boats as the author has observed on a number of occasions that Russian practices generally favour low tech with lots of manpower.

The cages are placed on pallets, presumably as they are loaded off the packer, which are then moved into the warehouse pending release. The product is released from the storage warehouse once the import company pays the taxes. Forklifts are again used to transfer the pallets (Figure 14) to the trucks. The pallets are held level with the truck bed and the cages hand-bombed into the truck (Figure 15). The pallets are then staked alongside the building for use on subsequent loads and are not distributed further with the product so the

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Figure 16: Interior shot of truck box with loaded product. Reefer unit can be seen along front wall.



Figure 17: One of the trucks used in Hanosaki to transport the Russian urchins

extra weight of the pallets does not add to the costs of transport.

We came on the scene just after the last boat was unloaded and there were about a dozen trucks on hand to move the product to the final destination. Most, but not all, of these were equipped with reefers, as can be seen above the stacked cages in the interior of the truck box (Figure 16) and there did not seem to be any effort to prevent identification of the trucking companies involved (Figure 17). We spoke with the crews loading the product and there did not seem to be any hesitation on their part to disguise what was going on.

We also spoke to a Russian skipper who invited us for further discussions on his vessel, but unfortunately we lost sight of him on the way over to where we thought his vessel was tied up and we never did get to hook back up with him. This skipper, as well as a couple of other Russian crewmen encountered around the docks, had the look of typical Russian fishermen, as the author experienced over 3 years working on Russian factory ships for periods of up to 4 months at a time, and did not present any sort of menacing visage as might be expected of guys in the employ of an organization with a vicious reputation like the Russian mafia. Russian fishermen, in this authors experience, are open and friendly, particularly once you get past the initial introductions and first shot or two of vodka, and hold almost as a point of honour that they are “simple men”- in a profound sort of way. They are involved in what must be a very tough fishery where conditions can often only be described as extreme and unforgiving, but their traditions have recognized this as part of their way of life for many generations, and they have consequently been forged into very capable and rugged professionals. While organized crime may well be even deeply involved in this trade, I do not think that the fishermen themselves are villains. Living on the edge of the law and a bit roguish perhaps, but this describes a lot of guys working in tough professions, including many fishermen in Canada, and they are likely to respond in kind to people who recognize and respect that in them.

Projected Trends in the Kurile Islands IUU urchin fishery

As mentioned, Russian imports of live urchins increased from about 1,500 MT in 1998 to ~10,000 MT by 2001 and to ~13,000 MT in 2004. The regulated TAC for the mainland remains at about 1,500 MT while that for the Sakhalin area, which includes Sakhalin Island and the Kuriles, has just been increased from 1,200 MT to 2,000 MT. The total catch from the Sakhalin area though includes about 8,000 - 10,000 MT of poached product each year. Fishing depths were reported to extend down to between 30 - 40 m in 2003 so there was some thought that the resource must be getting close to extinction. Production from the area though continued apace this year, as it did last year, so while the end may be approaching, we do not have any reliable way to estimate when that might actually be. However, given the volumes involved and the limits on expanding supply from other sources, the disappearance of this Russian IUU supply would have an immediate and dramatic positive effect on demand and prices, including for Canadian product.

Production history in other urchin fisheries have shown that production often builds rapidly and plateaus out for a few years before falling off a cliff when the stocks have been totally fished down. This is basically what we anticipate will happen here but there are still some questions as to the extent, distribution, productivity and resilience of the resource in the area. It may be that there are considerable volumes holding at depth and that these move up into accessible depths as the shallower urchin densities are reduced. Dave McRae is pulling up some charts of the area off his Nobeltec World Charts and will try to provide a preliminary estimate of the potential habitat at various depths and develop a possible biomass estimate(s). (Should check with Ian to see if there are charts in PBS that might help)

Even here though, he has only limited information on many of the biological and ecological specifics for this urchin species (*Strongylocentrotus intermedius*) so the accuracy of the biomass etc estimates cannot be validated absolutely. This section will be updated as this and perhaps other estimates become available.

- note: Dick Beamish just got some kind of recognition from the Vladivostok Fisheries Ministry and may have some contacts that could provide some information on the stock estimates and/or urchin biology and/or fishery for the area.

Also- should confirm species- *S. nudus* may be up in that area as well. It is the most commonly harvested urchin, making up 44% of the Japanese catch. It is fished in Hokkaido extending along Pacific coast from Ibaragi to Hidaka as well as in the Sea of Japan along the west coast (2001). Also fished quite a bit further South as well so this might be just getting up to its northerly extension.