

IN THE PROVINCIAL COURT OF NOVA SCOTIA

Citation: R. v. Fraser, 2012 NSPC 55

Date: 20120207
Docket: 2304907
Registry: Sydney

Between:

Her Majesty the Queen

-and-

Christopher Fraser

DECISION

Judge: The Honourable Peter Ross, J.P.C.

Heard: February 7, 2012

Charges: Section 78 *Fisheries Act*

Counsel: David Iannetti, for the Crown
Duncan MacEachern, for the Defence

Summary

The defendant was charged with fishing in a closed, contaminated area. Crown called expert evidence on the location of the line defining the closed area and the relative location of the traps. This opinion was predicated on readings taken from a GPS unit on a DFO patrol vessel. There was also some descriptive evidence of location.

Issue:

Has the Crown proven that the traps were located within the closed area?

Result:

The proof is insufficient. There was no evidence that the DPS unit had been calibrated, nor any other evidence that it was working to its potential accuracy. No presumption could be made, nor judicial notice taken. Evidence from visual estimation was also lacking. The defendant was found not guilty.

Facts

- [1.] Chris Fraser stands trial for fishing rock crab in a prohibited area. On August 18, 2010 Fisheries Officers spotted a number of buoys in a portion of Sydney harbor which they considered to be closed to shell fishing. They hauled and seized twenty traps, eight of which were attributable to the Defendant by virtue of their tag numbers and associated licensing documents. He was charged with fishing for rock crab in a closed area contrary to s.3(2) of the *Management of Contaminated Fisheries Regulations* SOR/90-351, thereby committing an offence under s.78 of the *Fisheries Act*. The regulation is meant to protect public health rather than to manage stocks or regulate economic activity.
- [2.] Documents produced at trial show that Mr. Fraser was the sole designated operator of a vessel licensed to fish 150 traps in Area 27. According to monitoring documents completed by the defendant for August 18, 2010 he set his traps in the north side of the harbor, as he did in the days before and after, in a location well away from the contaminated area. At face value they support his assertions at trial that he did not fish in the closed area. Neither his testimony nor any other evidence at trial gives rise to anything more than speculation as to how his traps ended up in the contaminated area in the south arm of the harbor.
- [3.] The traps were not snarled or damaged. On inspection by DFO, some contained crab. Particularly puzzling, given the defendant's assertions, is the fact that there were no traps to be seen in the closed area in the early morning when the DFO vessel set out on its daily patrol, for they were plainly visible when the patrol vessel returned to harbor at 4:00 p.m.

The Defense position

[4.] The defendant argued that it would be foolish to deliberately set traps in broad daylight in a prohibited area close to the Canadian Coast Guard College and within sight of many houses. But the idea, offered up by the defendant, that lobster fishermen with an aversion to rock crab fishing sabotaged the defendant by moving his traps into the contaminated area, is equally suspect for the same reason.

[5.] It is curious that the defendant, who says he set three “strings” of traps in the north side of the harbor, showed precisely the same position for the ends of each string on 6 consecutive days of fishing including the date in question.

[6.] The defendant reported no missing traps during this period; rather he showed that he set 150 traps in the days after August 18th. Even though this is a very marginal fishery, earning Mr. Fraser relatively modest returns compared to lobster and snow crab fishers, one might think that he would report and replace lost gear.

[7.] There is no evidence whatsoever that the traps were moved by bad weather, or inadvertently caught up in other vessels transiting through the area.

[8.] The defense here is more properly described as simple denial than due diligence. The defense evidence is less than convincing; however, it does not assist in proof of the Crown’s case. I must first examine all the evidence to determine whether it proves beyond a reasonable doubt each constituent element of the offence. If it does not, the defense doesn’t need a case.

The case for the Crown

[9.] Things such as identity, ownership of traps, the act of fishing, the closure of the area by Variation Order, date and jurisdiction are clear and uncontested. The only aspect which merits discussion is location – of the line which separated the contaminated area from the rest of the harbor, and of the traps which were seized. There is evidence of use of a GPS device. There is evidence of landmarks. But is the evidence sufficiently cogent and reliable to constitute proof that these traps were inside the delineated area?

Location by GPS - evidence

[10.] Captain Michael Kruger, a navigation instructor at the Canadian Coast Guard College, gave expert evidence. Contaminated Fisheries Prohibition Order No. STN-2000-013 describes the closed area as the “south arm of Sydney harbor”. Cpt. Kruger began with a Canadian Hydrographic Service map wherein this area was described and defined as “Sydney Harbour” per se. Whatever the nomenclature, he plotted the defined limit of the closed area. The line he plotted runs from the lighthouse at South Bar to Point Edward.

[11.] Having illustrated the location of the closed area he plotted on the same chart the location in which the offending traps were seized. (The location is that of the buoys. According to the evidence the traps themselves would be slightly *more* inside the line owing to wind direction.) He thereby produced an exhibit showing Sydney Harbour, the closed area, and the location of all eight traps.

[12.] Whether the traps were in fact located where Captain Kruger indicates depends entirely upon the accuracy of readings taken from navigation equipment aboard the fisheries vessel. As one officer operated the patrol vessel and another hauled the traps, a third noted the position of

each buoy from a navigational instrument. Officer Horne referred to the instrument as their “plotter”. Officer Cremo, who recorded the positions, described it as a GPS unit which also functioned as a depth sounder. I am perfectly satisfied that he accurately transcribed what was displayed on the instrument in terms of latitude and longitude and that these positions, so recorded, were capable of being plotted on the chart by Cpt. Kruger. As each trap was hauled the depth of water and the tag number attached to each buoy were also recorded.

[13.] The officers did not describe the make or model of the unit. Although one might infer that they relied on it that day to operate the vessel and do patrols, there is insufficient evidence to conclude from this alone that the instrument was giving accurate readings. Neither did the officers calibrate or otherwise ensure that the instrument was operating properly and accurately. For instance, there is no evidence that they took a reading of a known location (of a navigational buoy, for instance).

[14.] Cpt. Kruger gave some brief evidence about the global positioning system (GPS) and earlier navigational systems such as Loran. He said he “was familiar with the unit used here, and the antenna they used”. He described the unit as a Garmin 2301 with a recommended antenna attached. In cross-examination he said that he did not examine the instrument on the date in question; rather, when contacted a month before trial about testifying, he was told the model number.

[15.] It is common knowledge that GPS is widely used and capable of great accuracy. Many automobiles, cameras and other consumer goods are now equipped with it. Units are sold to back-country adventurers whose safety relies on it. No doubt it has its military uses. Such

general knowledge does not lead into the realm of judicial notice nor permit unfounded assumptions.

[16.] When Cpt. Kruger says the Garmin 2301 has a repeat of 10 meters – which I understood to mean its margin of error – I accept it. However I am also forced to consider his statement to defense counsel that he had “no idea what unit or antenna they used on the date the measurements were taken”. Further along in cross-examination he said that the 10 meter accuracy of the Garmin “goes for a complete drop” if the unit and antenna are not set up properly. He did not personally inspect the instrument as it was set up and utilized on August 18th, 2010; he predicates his evidence on what was told to him by a fisheries officer out of court but not confirmed in evidence in court.

Use of GPS – discussion, caselaw

[17.] Instrumentation of various kinds is used by law enforcement agencies. Sometimes the measurements become critical pieces of evidence at trial. New technologies often require explication through expert evidence. Over time, with the gradual accretion of knowledge and repeated examination in the courts, a given methodology or technology may achieve a certain level of acceptance.

[18.] Some instruments enjoy legislative status. The Breathalyzer and Intoxilyzer come to mind. Standards and procedures are defined. Proof is aided by various presumptions. Sometimes the operator of the instrument enjoys special status – breath technicians again come to mind.

[19.] In an admittedly cursory canvass of federal regulations I could find only a handful of references to GPS. For example, it is specified to be a permissible navigation system for certain vessels in the Arctic, or given as a way to self-report the storage location of a hazardous substance, and in the Ontario Fishery Regulations, SOR/2007-237 a permitted system by which a commercial fisher may report a position. But I noted nothing which spoke to GPS accuracy *per se* or its use as evidence.

[20.] Speed measuring devices are commonly used by police, utilizing radar or, more recently, laser. It is my experience that the operator calibrates the instrument, internally or externally or both, at a time proximate to the relevant measurement, as a way to ensure that the instrument was working properly.

[21.] Even the lowly caliper acquires its credentials from an expert. Charges of undersize lobster are common in this area. It is my experience that instruments used by DFO to check carapace size are checked for accuracy before being put in the field for use, and that instruments seized from fishers are themselves measured by an expert in weights and measures to foreclose the possibility of a due diligence defense.

[22.] There is a point at which it becomes absurd to insist on calibration, expert evidence, or external verification. If police measure a crime scene and testify that two objects are 5 meters apart, one can hardly imagine defense insisting on proof that the measuring tape was accurate, and a court can surely take judicial notice of the length of a meter.

[23.] Three cases were cited in closing submission. The only one which deals with the GPS accuracy issue is R. v. Gavin [2008] P.E.I.J. No. 41. The case deals with the location of lobster

traps vis-à-vis a line separating two defined zones. At paragraphs 19 to 25 the Summary Conviction Appeal Court deals with the defense argument that the GPS system was not identified and its reliability not tested. The court rejected this argument, noting that the GPS system that was used was actually tendered in court, and witnesses testified that it was in proper working order because of the display given at the time of the readings. An expert also testified. At para. 23 a case in the Saskatchewan Court of Appeal is noted, one which held that GPS evidence could be admitted in court without the need for an expert witness. While this may be so, it does not address the concern that the instrument by which the GPS readings are generated be in proper working order. In this regard Justice Mitchell says at para. 24 of Gavin : “What matters is that there is some evidence upon which the trial judge could assess the accuracy of the GPS.” At para. 4 of the judgment one reads that the captain of the patrol vessel verified that the GPS was working properly by taking a reading to confirm a known location. I have also looked at the trial decision, reported at [2002] P.E.I.J. No. 35. Gavin is distinguishable from the case before me.

[24.] In R. v. Bernard [2000] N.B.J. No 138, a case dealing with unlawful possession of timber on Crown lands, the judgment states at para 11 that “Readings were taken at known landmarks to confirm that the GPS unit was functioning properly and to confirm the accuracy of the mapping in the area.”

[25.] R. v. Mark [2004] B.C.J. No 666 from the BCCA discusses the use of GPS to measure the accuracy of a Loran system. It is not especially helpful to me in this case, but I note that at para. 6 the court says “There was also evidence as to ... the accuracy of the GPS used by Captain Paulson ...”

[26.] R. v. Boyd [2010] NSJ No.39 considered whether a due diligence defense was made out. The decision seems to focus around the fact that the defendant put incorrect coordinates into his own GPS system after it had “gone down.” A Crown witness spoke of the excellent accuracy of GPS. The court found at para. 35 that the GPS system used by the Defendant worked well. But it does not appear that the accuracy issue *per se* was the focus of the court’s deliberations. The central issue was due diligence. R. v. Bailey [2003] N.J. No. 347 and R. v. Truong [2000] B.C.J. No. 2770 also seem to consider the use (or misuse) of GPS by the defendant in establishing a due diligence defense. I do not read any of these cases as support for the proposition that mere reference to the use of GPS suffices to prove the accuracy of a given reading.

[27.] R. v. Hau [2010] BCJ No 2499 is a case where mention is made of a licensing system put in place between Canada and the US which equipped all fishing vessels in a particular area with GPS systems, thus permitting DFO to track the course of such vessels. This, and cases where devices were covertly placed on vessels (see for instance R. v. T&T Fisheries [2005] P.E.I.J. No. 74), involve the deployment of equipment pursuant to a designed program for the express purpose of determining the position of a vessel. These positions are monitored and recorded and interpreted over a period of time. This is a rather different circumstance than the case before me.

[28.] Cpt. Kruger plotted the traps as being hundreds of feet within the closed area, well beyond the 10 meter margin of error he attributed to a Garmin 2301. However the absence of non-hearsay evidence about the type of instrument used aboard the patrol vessel on the day in question, the lack of any evidence of internal or external calibration and the paucity of circumstantial evidence about its proper functioning leave me with inadequate proof of the trap

locations. This is a critical element of the offence. Criminal law standards of proof are exacting, and with good reason.

[29.] The officers said the line was pre-programmed into their instrument. Cpt. Kruger drew the line on the chart. The landmarks were identified on the chart. The officers had an honest and reasonable belief that the traps were inside the closed area. However the evidence at trial does not objectively demonstrate beyond doubt where the traps were located vis-à-vis that line.

Location by Visual Estimation

[30.] As noted above, the line defining the closed area ran from South Bar to Point Edward. I *will* take judicial notice of the fact that you can see across the water of Sydney Harbour from South Bar from Point Edward, and vice versa. For those who must rely on a record, the chart in evidence (exhibit #4) comes with a scale, and it shows these two landmarks on opposite shores of the south branch of Sydney harbor. Given the (unproven) assertion that the traps were hundreds of feet over the line, it seems possible, at least, that sufficient proof might come from visual estimation.

[31.] Defense counsel pursued the matter of the South Bar lighthouse with considerable vigor. Before Cpt. Kruger testified and drew the lines and locations on the chart, Officer Horne was asked to mark on this same chart the location of the lighthouse, a nearby “cardinal” buoy, and the South Bar wharf. Defense counsel then asked whether a fisherman might utilize these to ascertain the location of the contaminated area. Crown objected to the question on the basis that the officer could not speculate on what might be in the mind of a fisherman. Knowing that its expert was in the wings Crown resisted any attempt to have the fishery officer “define the line”.

Later in the trial Cpt. Kruger defined and drew the line between two landmarks - the lighthouse and Point Edward – both of which are identifiable on the chart and visible from the water.

[32.] In giving his prior testimony Officer Horne said the traps were “fairly close” to the South Bar wharf and “maybe could be seen from there”. However, neither this fishery officer nor the others who testified gave evidence that the offending traps were clearly, by sight, from their vantage point on the water, to the south of a line running from the lighthouse to Point Edward. There was testimony about the patrol boat steaming through the harbor, leaving from and returning to the Coast Guard College, and passing through the prohibited area, but nothing clearly relating their observations of the traps to the above-noted landmarks.

Conclusion

[33.] I have from Cpt. Kruger proof of the location of the limit of the contaminated area. He describes it in two ways, first by demarcation on a chart and second by reference to two landmarks visible from the general area where the traps were found. The Crown’s case falls short in proving the relative location of the traps. As to the first, it seems to me that I take too much for granted to conclude that the GPS instrument was functioning with the required degree of accuracy simply because it was a GPS instrument. As to the second, there is little to no evidence of the officers estimating the location of the traps by explicit reference to the two landmarks.

[34.] Crown suggested that I might take the recorded depths of the traps and with reference to the chart, which has a contour map of the harbor bottom, take these depths as circumstantial guarantees of the reliability of the latitude and longitude positions. I am reluctant to embark on

this voyage. The numbers which (by submission only) may refer to depths are rather similar through large areas of the harbor, inside and outside the contaminated area. I fear turning the court into its own expert witness. I risk substituting interpretation for deliberation.

[35.] For the foregoing reasons I find the defendant not guilty.

Dated at Sydney this 7th day of February, 2012

Judge A. Peter Ross