

# Interaction Between Pleasure Boats And Large Vessels At Give Way Situations

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#### **BACHELOR'S THESIS**

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#### Summary

Purpose of this thesis is to clarify why and how many near miss situations happens between pleasure vessels and large merchant vessels at Finnish territorial waters. Research questions of this thesis are which situations pleasure boat captains feel most difficult at meeting situation with large vessel? What creates these situations? References and material used in this thesis are internet sources, laws and regulations, answers I got from Finnish authorities when contacting with them and own experience from seafaring.

In theoretical part I go through legislations, rules and accident reports. The research method of this thesis is quantitative. Material of the research is collected by using an internet-based questionnaire. Inquiry contained nine mandatory questions and one voluntary open question. 61 people answered to the inquiry.

Research shows that near miss situations between pleasure boats and large merchant ships happens more than is reported. Over half (52.4%) have been or seen near miss situation with large vessel. The inquiry tells us that most difficult in meeting situation with large vessel is to perceive the area that large vessel needs on fairway. Research also shows that pleasure boat captains recognize well the situations which are or can develop to a near miss situation.

Language: English Key words: Near miss situation, pleasure boat, large vessel.

#### **EXAMENSARBETE**

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#### Abstrakt

Meningen med detta slutarbete är att göra en klarhet med att förstå hur mycket och varför det händer nära ögat situationer mellan stora fartyg och fritidsbåtar på de finska territorialvatten. Forsknings frågorna jag har valt till mitt slutarbete är: vilka situationer känns svårast för fritidsbåtarnas befälhavaren då de möter ett större fartyg? Vad orsakar dessa situationer? Som källor och material till detta slutarbete har jag använt internet källor, så som artiklar och statistiker, lagar och lagstiftningar, tog personligen kontakt till de Finska sjöfartsmyndigheterna och mina egna erfarenheter inom sjöfarten.

I teori delen går vi igenom lagar, lagstiftning och raporter om olycksutredningar.

Slutarbetets forskningsmetod är kvantitativ. Forskningens material samlades in med ett frågeformulär via internet. I frågeformuläret fandes det nio obligatoriska flervalsfrågor och i slutet ännu en frivillig öppen fråga. 61 personer svarade på detta frågeformulär.

Forskningen visar att det händer oftare nära ögat situationer mellan stora fartyg och fritidsbåtar än vad man vet och vad som raporterats. Över halva (52,4%) av alla fritidsbåtförare har varit själva med om eller sett en nära ögat situation mellan en fritidsbåt och ett större fartyg. Det svåraste med att möta ett fartyg enligt denna undersökning är att få en översikt över utrymmet i farledsområdet. Forskningen avslöjer också att fritidsbåtsförarna känner bra till en nära ögat situation eller att en situation kan utvecklas till en nära ögat situation.

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Språk: Engelska Nyckelord: Närä ögat situation, fritidsbåtar, stora fartyg.

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#### **OPINNÄYTETYÖ**

Tekijä: Kalle Halenius

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Suuntautumisvaihtoehto/Syventävät opinnot: Bachelor of Maritime Management

Ohjaaja: Peter Björkroth

Nimike: Huviveneiden ja isojen alusten välinen kanssakäyminen kohtaamistilanteissa

Päivämäärä: 08.06.2021 Sivumäärä: 20 Liitteet: 2

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#### Tiivistelmä

Tämän lopputyön tarkoitus on selventää miten paljon ja miksi läheltä piti-tilanteita tapahtuu isojen alusten ja huviveneiden välillä Suomen aluevesillä. Tutkimuskysymykset lopputyössäni ovat: mitkä tilanteet huviveneiden päälliköt kokevat vaikeimmiksi kohtaamisessa isojen alusten kanssa? Mikä aiheuttaa nämä tilanteet? Lähteinä ja materiaalina lopputyöhöni käytin internet-lähteitä, kuten artikkeleita ja tilastoja, lakeja ja säädöksiä, yhteydenottojani Suomen merenkulun viranomaisiin sekä omia kokemuksia merenkulusta.

Teoriaosiossa käydään läpi lait, säädökset ja onnettomuustutkintaraportit. Lopputyön tutkimusmenetelmä on kvantitatiivinen. Tutkimuksen aineisto kerättiin internet pohjaisen kyselylomakkeen avulla. Kyselyssä oli yhdeksän pakollista monivalintakysymystä ja lopuksi vielä vapaaehtoinen avoin kysymys. Kyselyyn vastasi 61 henkilöä.

Tutkimus näyttää, että läheltä piti -tilanteita huviveneiden ja isojen alusten välillä tapahtuu enemmän kuin mitä tiedetään tai raportoidaan. Yli puolet (52.4 %) huviveneilijöistä on ollut itse tai nähnyt läheltä piti -tilanteen huviveneen ja ison aluksen välillä. Kyselyn mukaan vaikeinta kohtaamistilanteissa ison aluksen kanssa on ison aluksen vaatiman tilan hahmottaminen väyläalueella. Tutkimus tuo myös ilmi, että huviveneilijät tunnistavat hyvin mikä on läheltä pititilanne tai että tilanne voi kehittyä läheltä piti -tilanteeksi.

Kieli: Englanti Avainsanat: Läheltä piti tilanne, huvivene, iso alus.

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#### 1. Introduction

I chose this theme to my thesis after working a few years as a second officer on a passenger ferry between Helsinki and Tallinn, and after noticing that, especially in summertime on narrow fairways in Helsinki side, there happens a lot of near miss situations or situations that can develop to a near miss situations or even accidents very fast between pleasure boats and merchant shipping.

Also, after talking with colleges, I noticed that they share the same worry of those situations which are quite horrifying to see from bridge of big passenger ferry. There have been cases where large passenger vessel must do hard manoeuvre to avoid collision. (Ilta Sanomat 10.09.2014). Also, Finnpilot Pilotage OY pilots have witnessed these situations on almost every pilotage voyage (Turvallisuustutkinta 11/2017, p.16).

Also, Finnish authorities have noticed this, and they are reminding people about give-way situations between pleasure boats and large vessels (Vaylä 20.5.2015). This theme is very close to me because of my profession, and because I spend a lot of my free time at sea boating. So, I feel that I can understand both sides of these situations.

Number of boats is crowing heavily in Finland (Traficom, 06.07.2020). So, it will be expected more and more traffic at Finnish fairways and situations where pleasure boat and large merchant ships will meet. More boats at sea means also more boat captains and some of them are first time at sea with own boat or with rent boat and maybe without skills to handle boat or any knowledge of rules.

## 2. Important references

At my thesis, the most important reference were the data that I got from Finnish authorities who I contacted via e-mail. Also, different news, articles and accident reports are used as references.

From Traficom, which is Finnish transport agency, I got statistic about accidents and near miss situations at Finnish territorial waters.

Fintraffic operates the vessel traffic service in Finland. I got their statistic about accidents in their operational area. Fintraffic also opened about their thoughts of how interaction between merchant shipping and pleasure boats works at Finnish waters.

#### 3. Theme of the thesis

This research was made to found out how to make things safer at situations where large vessel and pleasure boat encounter at fairway. I also wanted to get answer to these following questions: What are the things that pleasure boat captains' thinks are the most difficult at meeting and give way situations with merchant ships? What creates situations to be near miss situations? How to reduce near miss situations or how to avoid these situations for happening at all?

## 4. Implementing of thesis

Research method used in this thesis is quantitative research. Material to this thesis is collected by creating an inquiry by using web questionary program (Google forms). Answers for the inquiry were collected at middle of the February 2021 to end of April 2021. Inquiry was sent via Aboa Mare school group email, different boat clubs in southern Finland and I also shared questions web link straight to people.

## 5. Regulations

In this thesis I will go through only basic rules which concern both shipping and pleasure boat and I will define the terms merchant vessel and pleasure boat.

At shipping and pleasure boating we have to full fill different rules, directives and restrictions made by authorities and organisations. At Finnish territorial waters we must follow international rules like Colreg made by IMO and national laws, directives, and restrictions, made by Finnish authorities. Colreg rules are same for everyone who navigates

at sea or lake everywhere in the world, but local authorities can make more restrictions and limitations for their areas.

#### 5.1 Merchant vessel

According to Register of Ships Act (1993) over 15-meter vessel which will be used to merchant shipping have to be registered to Finnish merchant ship register. Vessel over 10-meters can also be registered to merchant ship register if the owner wants to.

#### 5.2 Pleasure boat

Pleasure boat is craft which is not use for merchant shipping will be category as pleasure craft. Over 24-meters pleasure boat captain also needs certificate for operating vessel.

### 5.3 Colreg rules

Colreg rules are international rules for all vessels, and it does not specify is the vessel pleasure or for merchant use. In this work most we are looking for rules: Colreg Part B, section II.

#### 5.3.1 Give way rules

Colreg Part B, section II conduct of vessels in sight of on another – and these regulations are same for merchant ships and pleasure boats. Everyone must follow these rules when navigating.

#### 5.3.2 Narrow fairways

Coast of Finland has lot of narrow marked fairways where is lot of pleasure boat traffic and merchant shipping traffic. There is not possible full fill Colreg Part B, Section II regulations, by those vessels, which has constrained by their draught or size of the vessel. Then comes to force Colreg (1972) Rule 9: "A vessel of less than 20 meters in length or a sailing vessel

shall not impede the passage of the of a vessel which can safely navigate only within a narrow channel or fairway." "it is better if pleasure boats keep safe distance to merchant ships" (Fintraffic, 17.6.2020).

#### 6. Accidents and near miss situations

I contacted Finnish maritime authorities to get statistic to my thesis. I contacted Traficom and Fintrafic to get confirmation to my hypothesis that there are more near miss situations that are reported. I am also describing here one situation where Viking XPRS was in a near miss situation but also it easily could have been developed into an accident.

#### 6.1 Authorities

I contacted Finnish maritime authorities to find out statistic of accidents and near miss situation at Finnish territorial waters. Fintraffic did not have specified data of accidents or near miss situation between merchant shipping and pleasure boat, but according to their knowledge and information a lot of those situations happens at sea (Fintraffic, Operative director). Traficom's data shows that they have received accident reports at Finnish territorial waters during 2010-2020 359 pcs and 51 of those were collisions. Only two of those were between merchant ship and pleasure boats. Traficom also said that near miss situations between merchant shipping and pleasure boats may happen more than we know because they will not be reported, or it is not so clear that it has been near miss situation (Traficom, Special adviser).

#### 6.2 Viking XPRS and sailing boat near miss situation

At 23. of September 2015 a 187-meter-long passenger ferry, Viking XPRS, departed from Tallinn port towards bay of Tallinn. Same time there were many sailing boats taking part of a regatta from Pirita yacht club to around buoy number 3 at bay of Tallinn. Viking XPRS was

heading to northbound, to the same buoy number 3 and one of the sailing boats, which were 10.7-meter-long, was heading to westbound.

Close to buoy number 3 Viking XPRS with speed over 19 knots and sailing boat that had CPA zero miles and it's bearing did not change. Situation went so far that Viking XPRS had to make hard manoeuvre to starboard to avoid collision. Distance between sailing boat and Viking XPRS was only 20-meters. There was a real danger for accident. (Veeteede amet 2015)

In this incident the sailing boat was a stand-by vessel because it was on starboard side of the ferry, but for the ferry there was not much space to do any actions and avoid the near miss situation because of heavy sailing boat traffic. These situations can develop very fast into a no return point level.

## 7. Results of inquiry

In this section I will go through the results of the inquiry, I will open the results one by one and show the answers in figures and tables. Tables and figures are generated automatically by survey administration software, Google Forms. I also used this programme to create the questionnaire. I tested the functionality of Google Form in this context and the understandability of the questions by first sending it to couple of people I know. Then the questionnaire was sent to a few different organizations. There were 10 multiple questions which where compulsory and one voluntary open word question where people could answer with their own words about experiences and thoughts. Overall, I got 61 answers. In open word part I got nine answers which surprised me positively.

#### Question 1: What is your boating experience in years?

Purpose of this question was to get some picture about experience of boating of those who took part of the inquiry. Answer options were: 1-5 years, 6-10 years and over ten years.

And these were the results: 18% of answerers had 1-5 years of experience, 23% had 6-10 years and 59% had over ten years of experience.

Question shows us that over 59% of the boaters has over 10-years of experience. In my experience boating as a hobby or moving at sea is inherited from generation to generation and those people start boating at young age. Also, navigation skills and knowledge are usually learned from older generation. I was surprised that there are so many boaters with less than 5 years of experience. They are in my opinion still quite new boaters. Perhaps nowadays when people are wealthier and they have the opportunity to buy boats, they do and that increases the amount of people who has less experience in boating and in navigation skills.

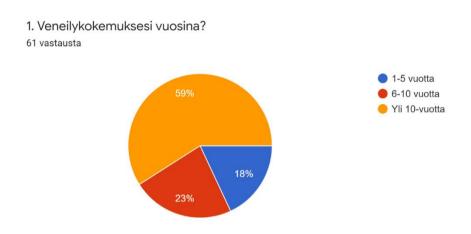


Figure 1: What is your boating experience in years.

#### Question 2: Which kind of boat are you using for boating at free time?

Purpose of this questions was to get picture of which kind of boat answerers are using, because speed and type of the boat can affect how the answerer sees different situations.

Answer options were: fast, over 10 knots moving engine driven boat, slow, under 10 knots moving engine driven boat and last option was sailing boat.

And the results were: 8.2% answered slow under 10 knots moving engine driven boat, 27.9% sailing boat and rest 63.9% fast, over 10 knots moving engine driven boat.

Most of the people are moving with motor driven boat, as much as 72.1% of all the answerers. Motor driven boat is easier to handle and make manoeuvre than sailing boat. Experience between motor driven boats captains and sailing boats captains can be different

when approaching bigger vessels which has limited possibility to manoeuvre in narrow fairway.



Figure 2: Which kind of boat are you using for boating at free time.

## Question 3: Have you been in or seen a near miss situation between vessel such as road ferry, passenger ferry or cargo vessel and pleasure boat?

Purpose of this questions was to get general picture of how many boaters have been in or have seen a near miss situations and compare this data to the authorities' statistics.

Answer options were: I have been in a near miss situation. I have seen a near miss situation. Or neither of these.

And the results were: 18% answered that they have been in a near miss situation, 34.4% answered that they have seen a near miss situation and 47.5% answered they have not seen or been in these near miss situations.

So over half, rather 52.4% has been in or seen a near miss situation with vessel which can only navigate in fairway because her draught or size. The outcome of this question was surprising to me. I was surprised that there are so many people who has experienced a near miss situation them self or as a viewer. We can state that this kind of situations happens at sea more often than the authorities' statistics shows. I think people are more likely to answer truthfully these kinds of questions when the answers are given anonymously.

3. Onko sinulla ollut tai oletko ollut tilanteessa, jossa nähnyt läheltä piti tilanteen iso aluksen kuten: yhteysaluksen, matkustaja-aluksen taikka rahtilaivan ja huvialuksen välillä?

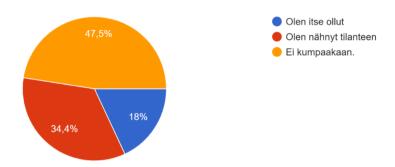


Figure 3: Have you been in or seen a near miss situation between vessel such as road ferry, passenger ferry or cargo vessel and pleasure boat.

## Questions 4, 5 and 6: How difficult you find the situations in which you encounter a vessel with limited ability of manoeuvre because of her size or draught?

Purpose of this questions was to get information of how the pleasure boat captains feel in situations in which they encounter a vessel with limited ability of manoeuvre because of her size or draught. Question is divided in three parts to see how pleasure boat captains understand different movements of big vessel.

#### Question 4: The speed of a large vessel in relation to speed of your own boat?

In question number 4 is asked how difficult boaters find to identify the speed of a large vessel in relation to their own boats speed. Answer options were from 1-5. Number 1 not at all difficult and number 5 was difficult.

The results were: **1)** Not at all difficult 26.2%, **2)** 13.1%. **3)** 31.1%, **4)** 36.1% and **5)** difficult 11.5%.

Most of the answerers do not find it difficult to identify the speed of a large vessel in relations to their own boat. Accent of the answers seems to be heading more to not difficult. But I think there is difference between motor driven boat and sailing boat captain

in how they feel in these situations, because sailing boats are usually much slower than large vessels. And nowadays many engine-driven boats are much faster than before, so they are most likely to be faster than large vessels. I think this affects to the fact that engine driven boaters do not find it so difficult to encounter with large vessels.

4. Aluksen nopeus suhteessa oman aluksen nopeuteen? 61 vastausta

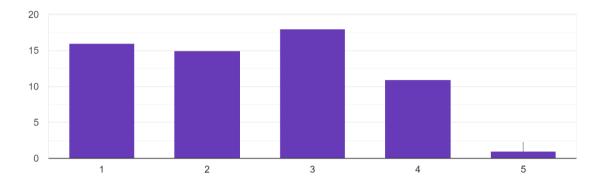


Figure 4: The speed of a large vessel in relation to speed of your own boat?

#### Question 5: The space that a large vessel needs on a fairway.

Purpose of this question was to get information of how difficult pleasure boat captains find it to predict how much space a large vessel needs on fairway to manoeuvre safely. Answer options were from 1-5. Number 1 meaning not at all difficult and number 5 meaning difficult.

Results were 1) Not difficult at all 8.2%, 2) 13.1%, 3) 31.1%, 4) 36.1% and 5) 11.5%.

Accent of the answers seemed to be little more on a difficult side. So, this question shows us that boat captains feels that it is quite difficult to predict the amount of space that a large vessel needs when encountering on a fairway. When turning, a large vessel may need to cut the corners and the aft of the vessel will also need a lot of space.

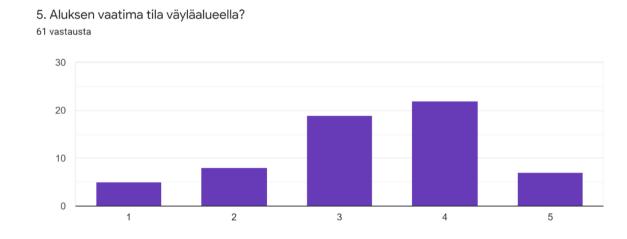


Figure 5: The space that a large vessel needs on a fairway.

#### Question 6: Noticing vessels track and course changes.

Purpose of this question was to get information on how difficult it is for a pleasure boat captains to notice which track or fairway a large vessel will be using or if a large vessel changes its course. Answer options were from 1-5. Number 1 not difficult at all and number 5 was difficult.

Results were: 1) Not difficult at all 24.6%, 2) 27.9%, 3) 16.4%, 4) 26.2%, 5) Difficult 4.9%.

In this question answers were quite equal at all levels. Except only 4,9% answered number 5 as meaning difficult. Most of the answerers chose number 2, exact 27,9 percent. Seems that boat captains feel they have an eye on how a large vessel will act when navigating through a narrow fairway.

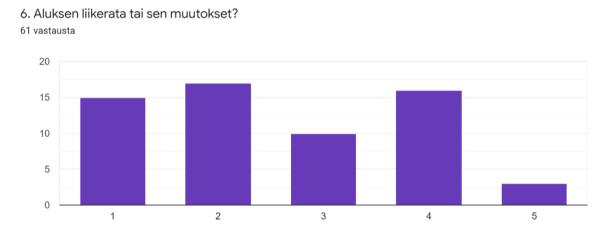


Figure 6: Noticing vessels track and course changes.

Questions 7 and 8: Does large vessels like cargo vessels, road ferries, passenger vessels etc. pay enough attention to pleasure boats at open sea or in the archipelago when possible.

Purpose of these questions were to get information of does pleasure boat captains feels that large vessels pay enough attention to them. Question is divided in two parts. In first part boaters were asked does large vessels pay enough attention to pleasure boats in the archipelago. Situations at open sea are different than narrow fairways in archipelago. At open sea large vessels must follow Colreg rules and give way to smaller sailing boats. In the archipelago the fairways are usually narrow and therefore Colreg rule nr. 9 is in valid. Answer options to both questions were the same. Number one being not taking any of attention to pleasure boats and number five being taking attention to them very well.

#### Question 7: How large vessels pay attention to pleasure boats at open sea.

Results were: 1) Not at all 1.6%, 2) 18%, 3) 34.4%, 4) 29.5% and 5) Very well 16.4%.

Over 30 percent answered number 3 and 45,9 percent answered either 4 or 5. Seems that large vessels are paying attention to boats at open sea quite well. There are some differences between engine driven boats and sailing boats because according to Colreg (rule nr. 18) all the vessels should give way to sailing boat at open sea.

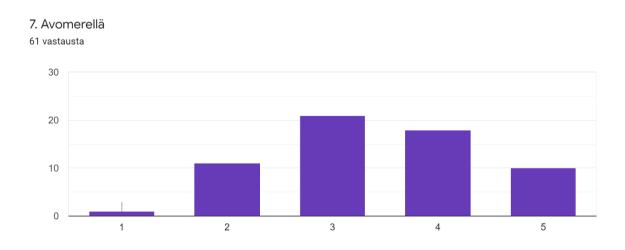


Figure 7: How large vessels pay attention to pleasure boats at open sea

## Question 8: How large vessels pay attention to pleasure boats in the archipelago and in narrow fairways.

Results were: 1) Not at all 18%, 2) 19.7%, 3) 41%, 4) 19.7% and 5) Very well 1.6%.

At this question, the answers are more in a middle section, no less than 41 percent answered number 3. Only 1.6% answered that large vessels are paying attention to smaller boats very well in the archipelago. It looks like archipelago situations are more difficult to both sides when navigating in narrow fairways. I think this shows specifically in summertime when there is more traffic in the archipelago.

#### 8. Saaristossa/ahtailla kulkuväylillä 61 vastausta

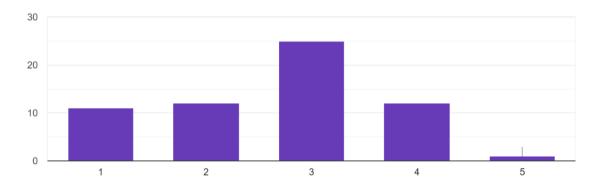


Figure 8: How large vessels pay attention to pleasure boats in the archipelago and in narrow fairways.

Question 9: When looking at the picture is there a possibility for a near miss situation or is the near miss situation already happened? At this picture, the large cargo vessel is approaching narrow part of the fairway which is surrounded by rocks. Picture have been taken from another large vessel, which is heading the same way.



Purpose of this question was to show pleasure boat captains how these kinds of situations look from a different perspective. These situations usually look quite different from a bridge of a large vessel than from a small boat.

Answer options were: **1)** Yes, **2)** No, **3)** Maybe, **4)** Situation can develop to a near miss situation and **5)** Situation cannot develop to a near miss situation.

Results were: 1) 39.3%, 2) 6.6%, 3) 19.7%, 4) 34.4% and 5) 0%

Nearly 40 percent answered that in the picture there is a near miss situation. Over 30 percent answered that it can develop to a near miss situation. None of the answerers selected number 5, which meant that there is no chance for a near miss situation. So, everyone saw that there is some kind of risk for a near miss situation.

9. Onko kuvassa mielestäsi mahdollisuus läheltä piti tilanteen tapahtumiseen tai jopa tapahtunut läheltä piti tilanne? Kuvassa rahtialus navigoimassa...eikkoa ja kuva otettu toisen ison aluksen keulasta. 61 vastausta

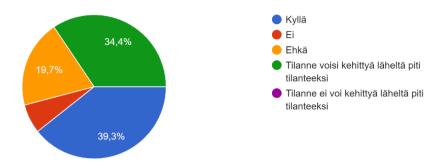


Figure 9: When looking at the picture is there a possibility for a near miss situation or is the near miss situation already happened?

#### Question 10: Open word, thoughts, and comments about near miss situations.

Purpose of this open word part was to get people answer with their own words what they think about a near miss situations with large vessels.

Nine answered to this open word part. It emerged from the answers that pleasure boat captains think it is quite easy to avoid a near miss situations with large vessels.

Here is few of the answers which I have translated to English: "These situations happen all the time specially at Helsinki sea area and Turku archipelago" (answerer 1). "No problem if large vessel navigates at fairway but if it cuts the corner then unpredictable situations can happen" (answerer 2). "No problem if pleasure boat captain makes proper look out" (answerer 3).

### 8. Analyse of the answers

When I started my thesis, I did not have any expectations about how pleasure boat captains will feel and see near miss situations with large vessels and how many has some experience of these near miss situations with large vessel by being at situation them self or seen such a situation. Reading and investigating different forums and discourses at the web I noticed that it seems to be also quite unclear to pleasure boat captains how they should act in a meeting situation with vessel which has limited capability to manoeuvre at narrow fairway. 52.4% of the answerer has been or seen near miss situation with large vessel so it seems that there at sea these situations happens quite often and that is in line with my own experience from sea and confirm my hypothesis that there are more near miss situations that are reported.

Most of the answerers (59%) had more than 10 years of experience about boating. I wanted to find out experience of boating by years. Boating and moving at sea are usually started at young age and it is heritage from "father to son". Navigation rules and knowledge is usually learned by doing style or from older generation. But nowadays people have more money to spend for their hobbies and free time so there are more and more new pleasure boat captains. In Finland we do not have any boat license even if many boaters find it important to have (Artto, 2015). So, it is from your own interest that you will study and learn navigation at sea. When boat is under 24-meter long the law doesn't require a license. That means that at sea there can be boat captains without any knowledge about rules or skills how to manoeuvre boat.

It came out at inquiry that pleasure boat captains feel that the most difficult thing at meeting large vessel is to perceive how big area vessel will need at fairway. This outcome was surprising for me. I thought that the most difficult thing for boat captains would be to perceive the speed of the large vessel, that is because of my own experience at sea.

In the second last question I asked that do boaters see a risk of a near miss situation or has it already happened in the picture. It was nice to notice that most of the answers were yes, maybe or it can develop to a near miss situation. These answers shows that boat captains have noticed a risk of a near miss situation. This question and question number three shows us that pleasure boat captains have a good overview when there is near miss situation or

situation can develop to near miss situation. It is important that they can recognize these situations so that they can act to avoid accidents.

The inquiry was made anonymously, I think it had some effect on the answers. I think there were so many yes-answers to the question where I asked, have you been in a near miss situation with large vessel because of that. Maybe people would not answer truthfully in face-to-face kind of situations to these kinds of questions and that might be one of the reasons why near miss situations are not reported or there is no good statistic about these situations. There are only feelings and "I think that those situations happen a lot"- thinking like Fintraffic and Traficom answered.

Pleasure boats sizes has grown during the last 10-years a lot and more navigation equipment is installed to pleasure boats, this can affect to the fact that traditional navigational skills are not in a good level anymore and proper look out is forgotten. People rely on electronical navigation.

I send the questions to different boat clubs at Finland, group mail via my school mailing system and I also shared questions to few people I know that owns boat. So, I think those who answered questions are motivated boaters and some of them have also professional maritime education or they have been in navigational courses.

My hypothesis became true in my research. Hypothesis was that near miss situations happens more than is reported. This was also hypothesis of the authorities Traficom and Fintraffic. I also reached the goal of my thesis to see how boaters feels in near miss situations.

### 9. Critical examination and discussion

I got 61 answers to my inquiry and over 59% of them has more than 10 years experience of boating. It was surprise that over half (52.4%) have been or seen near miss situation with large vessel which is quite a lot in my opinion. Inquiry shows that boat captains feels that the space that large vessel needs in fairway is one of the most difficult things at meeting situation. But we must remember that Finnish archipelago is a huge area, and it can be so that some boaters will meet large vessel on their every voyage and some maybe never. Seems that boaters recognize the near miss situations to be near miss situations, or that it can develop to dangerous way. But the reason why these near miss situations happen between boats and large vessels might be consequence of these situations developing so fast to no return point that those situations really surprise boat captains.

I think we can expect more near miss situations happening in near future between pleasure boats and large vessels because number of boats is crowing heavily in Finland. In 2020 there were 19% more registered new boats compared to the previous year and also second hand boat market is doing well. (Venelehti 13.01.2021)

In my thesis I did not make separation between engine driven boats and sailing boats, is there difference between different boats captain's ability to identify encounter situations with large vessels. Maybe there would be some difference and it could be research more.

As has emerged in this thesis near miss situations happens quit a lot and I think it is appropriate to ask how we could make these situations happen less. As long as there is not any boat license or mandator education to boat captains in Finland, it is boat captain's own responsibility to get information and skills how to avoid these situations. But is it enough? Maybe authorities should do some campaigning, or some other way inform boaters of basic rules at sea and how to avoid and act in near miss situations. Also volunteer navigational educations should include at least some main things how to encounter with large vessels to avoid near miss situations. No one really means to get into these situations, so educating boaters could be the answer. Maybe we should have a mandatory license to all who moves at sea?

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4/28/2021

Huviveneiden ja kauppamerenkulun kohtaamiset

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