Appendix B – Vessel Self-arrest and Tug of Opportunity Studies and Comments

The Glosten Associates, Inc. conducted two related studies for the Cook Inlet Risk Assessment, which are included in this appendix:

- Evaluate Drifting Vessel's Ability to Self-arrest (2013)
- Evaluation of 2012 Tugboat Response Times (2013)

Elements of these studies are used, and attributed, in the report. Upon reviewing the studies, the Advisory Panel and Management Team expressed several concerns, which are summarized here. In addition, the Management Team invited Safeguard Marine LLC to provide input. That input follows the comments from the Advisory Panel, below.

Summary of comments from the Advisory Panel on *Evaluate Drifting Vessel's Ability to Self-arrest:*

- The qualitative review did not consider examples where self-arrest was successful. This is a relatively common practice, though is rarely documented when it succeeds. The reasons why self-arrest *can* work in Cook Inlet should have been considered.
- Mariners commonly dredge an anchor while coming alongside long berths in Cook Inlet, but this is not considered.
- Conditions in Upper Cook Inlet and Kachemak Bay are suited to successful self-arrest, due to the composition of the seabed, angle of the sea floor, and linear tidal current. These conditions are less suitable in much of Lower Cook Inlet, but there is extensive sea room and the dominant tidal currents do not trend towards hazards.
- Claims that a vessel's ground tackle will be lost or damaged in a self-arrest attempt are over-stated, as is the claim that such damage could cause of breach of the cargo holds.
- Active subsea pipelines and cables may be damaged by a self-arrest, but active ones in Cook Inlet are charted. A vessel could drift with the current until free of underwater obstructions.
- A simulated study would provide the opportunity to gain a shared understanding of the feasibility of self-arrest in different conditions typical of the Inlet and to identify best practices and procedures. A study combined with additional analysis could help to identify areas where a ship should, or should not, attempt to anchor due to underwater obstructions or other conditions.

Summary of comments from the Advisory Panel on *Evaluation of 2012 Tugboat Response Times:*

- The report assumes that a vessel would need to be turned in heavy ice concentrations and strong currents in the Upper Inlet. This would be very difficult, and it is unlikely to be the approach used when heavy ice is present. Alternatively, the vessel may be towed from the stern to hold position; towed from the bow, continuing to use the towing vessel as steerage and the current to move the vessel to a safe harbor; or hold the distressed vessel in place until additional support arrives (which would be expected from Cook Inlet's extensive resident vessels).
- The assumption that a tug towing a barge could leave that barge at a Cook Inlet port is flawed. There are requirements regarding whether or not personnel can remain on board a barge without a vessel, and safety and security concerns if a barge is unattended. Lines must be tended as tides change, and there are times when weather conditions require the docks to be cleared so a different and adequate towing vessel would need to be present if such conditions arose. While operators may be able to transfer their responsibility for a barge to another tug and crew, this will not always be available.
- It is unclear whether a USCG cutter would be dispatched to rescue a vessel of greater than 300 GT (the study size) in the Upper Inlet.
- The CISPRI response vessels *Perseverance* and *Endeavour* are not included from the dataset used for most of the year. This significantly affects the results, and does not reflect the fact that both vessels work year-round in Cook Inlet, in particular north of the Forelands. Both vessels represent significant response assets, as they are manned and equipped for offshore response and towing, and suitable for work in ice conditions. (They could also arrive on scene in the Upper Inlet in less than 6 hours, with additional support to come from tugs stationed in Anchorage and/or Nikiski.)
- Wave forces should be disregarded in ice conditions, as they are minimal.
- Mariners in Cook Inlet understand the currents and are experienced in minimizing their negative impact or maximizing their positive impact, depending on the situation.

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Statement Regarding Cook Inlet Risk Assessment Seven

Safeguard Marine LLC[1]

February 27, 2014

Executive Summary

Based on a review of "Cook Inlet Risk Assessment Task 7; Evaluating Drifting Vessel's Ability to Self-Arrest" conducted by Glosten Associates for Nuka Research and Planning, December 3, 2013, we discuss the conclusions that were presented. The focus of this statement is on the interviews and literature review of a vessel capable of self-arresting within Cook Inlet and the data presented concerning a tug of opportunity. Specifically, we discuss a highly publicized incident of a vessel actually self-arresting within Cook Inlet that was high in risk, and such practices cannot be considered a reliable risk reduction option. The data for the tug of opportunity discussed in the report was not representative of the maritime assets capability. We propose Cook Inlet Regional Citizens Advisory Committee request an analysis be performed by Safeguard Marine utilizing ship simulation in Cook Inlet including self-arrest and a tug of opportunity. We provide a report documenting the feasibility of vessel self-arrest in Cook Inlet by utilizing highly experienced licensed marine pilots with local knowledge who perform actual ship maneuverers within Cook Inlet.

[1] Safeguard Marine is an Alaskan owned and operated LLC providing independent maritime Consulting specializing in the responsible development of Alaskan resources.

Statement

This comment made use of Glosten and Associates report including data, interviews and literature review. Glosten and Associates is a respected engineering and consulting service operating from Seattle, Washington who prepared the documents for Nuka Research, contracted with Cook Inlet Regional Citizens Advisory Committee (CIRCAC). Cook Inlet Risk Assessment Management Team contacted Safeguard Marine and requested our input and comment concerning these documents.

The purpose of this statement is twofold. First, it is to discuss the statements and conclusions surrounding vessel self-arrest capability and tug of opportunity data. Second, it demonstrates the importance of using local practitioners when seeking to create an accurate depiction or an analysis which addresses maritime navigational risk within Cook Inlet and the State of Alaska.

Vessel Self-Arresting Cook Inlet

The personal interviewed were not listed other than "in house experts". The Glosten web site depicts many highly qualified engineers, however no experienced, licensed deck officer. The literature review was based upon incidents and report reviews (*The incident report review was not exhaustive*; footnote page 6), G Captain (internet site for "captains" to write in and share their experiences and some case studies) and several resources reference anchoring. Text referencing anchoring of a vessel depicted the vessel needed to be stopped with minimal movement or the anchor gear or vessel would be exposed to damage or personal injury. Contrary to this representation it is common practice by all Southwest Alaska Pilots to utilize the anchor when maneuvering a vessel in Cook Inlet. This is done with the engines running and the ship making way. The dredging of an anchor is an accepted practice within the maritime industry. Accomplished mariners consider the anchor an invaluable tool which they may utilize in maneuvering the vessel while making way. The use of anchors are also commonly utilized by pilots and masters alike in emergency ship handling situations. To do otherwise has been construed by the courts and USCG on more than one occasion as being negligent.

Scope of the study states a qualitative probability of self-arrest is estimated, however the factors utilized in contribution to the conclusion didn't include the mariners' capability to compensate for propulsion failure. Several of the incidents sited were based upon the inability of the particular mariner to execute the self-arrest maneuver.

The report also quoted Standard P&I club "**anchors can be very effective in stopping a ship".**
"In an emergency, anchors can be very effective in stopping a ship, *provided the anchor is lowered to the seabed and the cable progressively paid out. Initially, the anchor should be allowed to dredge and gradually build up its holding power until its braking effect begins to reduce the ship's speed. Care should be taken when trying to stop any ship in this way, especially a large ship, as the anchor and its equipment may 'carry away' causing damage or injury, if the anchor should snag." Page 6*

Drifting scenarios for Cook Inlet were posed, and a qualitative probability of self-arrest was stated as not a reliable risk reduction option.

“Self-arrest is not a reliable risk reduction option. While it is regularly attempted, it does not usually succeed. Under some conditions, it is not even appropriate to attempt. Factors of the waterway, vessel, and environmental conditions can cause failure. Attempting to self-arrest has risks, potentially great ones, and an overall low probability of success.” Conclusion page 9

The conclusion was based upon reference statements such as these listed below, which are in direct contrast to what professional mariners perform when dredging anchors within Cook Inlet.

Broken Equipment

Dropping the anchor in an emergency situation typically loads the anchor system components in excess of their usual use. The load on the anchor when it develops its embedded load capacity translates up the anchor chain, windlass, anchor shackles, deck gear, and even to the vessel foundation. It is probable that one (or more) components in the system will break if the vessel is drifting faster than normal, essentially stopped, anchoring speed. Page 3

Drift Rate

In our judgment, (Glosten and Associates) the upper speed limit above which there is near zero probability of self-arrest is around 5 knots. Consequently, anchors should be deployed before high drift speeds are developed. A vessel with a faster drift rate and ideal seabed conditions may have the same probability of success as a slower vessel with poorer seabed conditions. Page 4

CIRCAC has based some of their studies, decisions to advocate for change regarding large vessel operations within Cook Inlet, upon grounding of Sea Bulk Pride. This highly publicized event was not part of the literature review concerning vessels capability to self-arrest within Cook Inlet. Partially loaded tanker Sea Bulk Pride broke from her moorings which resulted in mooring wires fouling her propeller, preventing the use of her own propulsion to stop the vessel. The vessel deployed her anchor to self-arrest her motion for the period of a current in excess of 5 knots, after the ships speed was over 5 knots. The vessel was capable of self-arresting as a result of deploying the anchor. She came to rest safely at anchor without grounding or striking the shoreline due to the anchor self-arresting the vessel without damaging the vessel or injuring personal. This action is in direct conflict with the Glosten Associates statement. Unfortunately the vessel was unable to maneuver herself away from her anchor position due to lack of propulsion prior to the tide retreating and leaving her aground. In this case using the anchor may well have prevented a maritime catastrophe which was recognized by the Alaska State legislature, awarding those involved a letter of commendation.

Tug of Opportunity

Disabled vessel position for northern Cook Inlet scenario was established North of Boulder Point and Southeast of Middle Ground Shoal which is in close proximity to Nikiski Bay. This area has significant oil supply vessel traffic including Perseverance and Endeavour, which were indicated as being available for three weeks and six months respectively. The data was based upon Wednesdays, for 52 weeks of 2012. The data appears inconsistent with local knowledge that these vessels, or others similar, are in the area servicing oil platforms. Number of vessels in this trade has increased dramatically this last year due to the locally publicized increase in Cook Inlet oil and gas industry.

Running time to the scene of the disabled vessel was calculated utilizing current as either in favor of the tug or against the tug of opportunity. The calculation was being determined based upon the six hour tidal cycle with no allowance for the actual dynamics of Cook Inlet. Example of the dynamics involved when transiting this body of water is a tug of opportunity departing Anchorage against the current, will actually have the current with them, prior to arriving at the northern Cook Inlet scenario location.

300 tons of bollard pull was required to be considered a viable vessel of opportunity for Northern Cook Inlet based upon the stipulation to turn a vessel around against the ice and current. This calculation was derived from an assumption the tug would be required to pull at 90 degree angle from the disabled vessel. This is not how a tug of opportunity would pull on a disabled vessel, utilizing this stipulation is contrary to practice of good seamanship. Three day simulations and instruction were conducted at Seward AVTEC 2011 with expert tug boat consultant Captain Brooks. This involved instruction concerning the emergency towing of a disabled tanker. These indicated even a minimal bollard pull tug would have an effect on disabled vessel if performed correctly which doesn't involve pulling perpendicular to the disabled vessel.

Conclusion

This statement argues the study of a vessels capability to self-arrest within Cook Inlet and the use of a tug of opportunity was inadequate. More specifically, the study was inadequate due to its dependence on the use of a literature review and interviews that were not specific and concise to the maritime practices in Cook Inlet Alaska. The data discussed in relation to the tug of opportunity was not based on common maritime experience required, and this directly impacted the results and conclusions of the material. This study should have been conducted or material analysed with the assistance of local based experts within the field of maritime risk mitigation. Under future work subtitle Glosten stated the work was as a "cursory study" and future work is appropriate to validate the probability estimates. Maritime simulations are capable of providing reliable data of vessel capability to self-arrest within Cook Inlet by measuring the tonnage exerted on the ground tackle gear when deployed in an emergency. Safeguard Marine is prepared to provide a proposal for CIRCAC based on the use of simulations to provide a more comprehensive analysis. We would be willing to propose the opportunity for members of your group to observe simulations in Seward, Alaska that could be conducted to assist in answering these very important questions for the benefit of all Alaskans.

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DOC:	REV:	FILE:	DATE:
11054.03-7.5	—	11054.03	13 December 2013

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Summary

Self-arrest is the act of deploying a ship's anchor or anchors to stop the vessel in an emergency situation. The probability and contributing factors of self-arrest to prevent a drift grounding were studied in a literature review and interviews. Primary factors are drift rate, anchor embedment conditions, vessel size, and ground tackle load capacity. The combination of factors at the specific time, location, and environmental conditions for the specific drifting vessel affect the outcome. There is no standard protocol to decide when to self-arrest. Nor is there a single effective procedure to self-arrest. Because of the situational variability and uncertainty, it is not easy to predict when self-arrest will succeed. In this report, a successful self-arrest scenario is described, and scenarios for commercial, deep draft vessels in Cook Inlet are posed. Their estimated probability of self-arrest is low. Self-arrest has risks, potentially great ones, and variable predictability; consequently, it cannot be considered a reliable risk reduction option.

Introduction

Self-arrest is the act of deploying a ship's anchor or anchors to stop the vessel in an emergency situation. Self-arrest is attempted to prevent grounding or collision. An emergency situation when another rescue vessel arrests or stops the distressed vessel is not self-arrest. Self-arrest is not considered an available risk reduction measures if the vessel has dragged its anchor(s)[1] or has lost its anchor(s)[2]. This maneuver differs from a non-emergency situation when a stationary vessel deploys its anchor to keep within a watch circle. It was identified as a Risk Reduction Option for further study in Task 6 of the *Cook Inlet Risk Assessment*; self-arrest is the subject of study for CIRA Task 7 as presented in this report.

Scope

A literature review and interviews were conducted to study the probability of self-arrest to prevent drift groundings. Past successes and failures help inform what factors affect the outcome. Factors contributing to the probability of a successful self-arrest and how they relate to one another are discussed. Scenarios for Cook Inlet are posed, and a qualitative probability of self-arrest is estimated.

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[1] This condition is similar to the *M/V Steward Island* near miss (Reference 1).
[2] This condition is similar to the *Fisherman's Paradise* incident (Reference 2).

Decision to Self-Arrest

The choice to attempt a self-arrest comes down to the Captain's judgment at the time of the emergency, because it is so dependent on the conditions. The amount of time available before a possible grounding affects the decision and timing to attempt the maneuver. The water depth decreases closer to shore, and the available time decreases for a rescue vessel to arrive or for the crew to fix the failure that caused the vessel to drift. The *Selendang Ayu* drifted 100 miles before attempting to self-arrest when it neared shore (Reference 3). In this case, the decision to self-arrest was made after other rescue measures failed and water depths permitted anchor deployment.

Conditions to consider in deciding to self-arrest include the consequence of attempting a self-arrest and the consequence of grounding. If the vessel is headed to soft, flat, unoccupied ground, and the consequences of grounding are not serious, then the risk of deploying the anchors for self-arrest may not be acceptable. However if grounding is potentially on a rocky shoreline or a sensitive habitat, then the decision to self-arrest may be appropriate. Other vessel-specific factors that may influence a Captain's decision are: cargo (e.g. sand vs. oil), liability, and risk tolerance.

Self-Arrest Consequence Factors

The risks of self-arrest are dependent on the situation; and vary from mild to severe. The self-arrest attempt may simply fail to prevent the drift grounding, or the attempt may cause further incidents and damage in addition to the unprevented grounding. The most common consequence is broken anchoring tackle, and the most severe consequence is loss of life.

Broken Equipment

Dropping the anchor in an emergency situation typically loads the anchor system components in excess of their usual use. The load on the anchor when it develops its embedded load capacity translates up the anchor chain, windlass, anchor shackles, deck gear, and even to the vessel foundation. It is probable that one (or more) components in the system will break if the vessel is drifting faster than normal, essentially stopped, anchoring speed.. The windlass is a typical failure point. In the case of the 385' *FV Paradise*, the connection between the anchor chain and the anchor failed (Reference 2). The loss of one set of ground tackle might still allow a second anchor to be deployed, as time and distance permits. Failure of the windlass or supporting structure would preclude further anchoring. Inadequate foundations for the windlass, anchor stopper attachments, and chocks can cause damage to the vessel that potentially includes breaches of the watertight integrity. If equipment breaks, then the self-arrest is likely a failure.

Risk to Vessel, Subsea Assets, and Vessel Personnel

The equipment may stay intact, but still cause harm depending on where it lands on the seabed. If the anchor is deployed in shallow water, then there is a risk that the vessel may run over it and puncture the hull (Reference 4). Cook Inlet has many inactive and active pipelines. If the anchor is deployed over a pipeline or other undersea asset, then there is a risk of a spill or asset damage.

Even if the equipment does not fail, the deployment may injure or kill crew members. In the case of the *Planet V* self-arrest attempt, the anchor was deployed with uncontrolled speed. The anchor chain entirely ran out and broke free of its end attachment in the chain locker.

The loose-flying anchor chain then fatally injured a crew member (Reference 5). The self-arrest both resulted in a fatality and failed to prevent the collision.

In summary, self-arrest presents risks to the seabed, to the vessel, and to the vessel personnel.

Self-Arrest Probability Factors

One factor limiting the probability of self-arrest for the *Planet V* was its speed, as described in Reference 5, "At a speed over ground of 7.5 knots emergency anchoring is a highly unusual and extremely risky procedure." Speed (or drift rate) and seabed conditions are two primary factors in determining success of the self-arrest maneuver, followed by vessel equipment, vessel location, and environmental conditions.

Drift Rate

Drift rate is a primary factor in the probability of self-arrest success. Currents significantly influence the drift speed and direction. Drift Rate is also a function of vessel displacement, exposed windage area, and the environmental conditions. The larger the displacement and windage, the faster the vessel will drift with waves and wind. A vessel with a faster drift rate will be less able to self-arrest. The vessel may be moving even faster following an instigating failure at transit speed, like in the mechanical failure mid-transit on the *Planet V*. In our judgment, the upper speed limit above which there is near zero probability of self-arrest is around 5 kts. Consequently, anchors should be deployed before high drift speeds are developed. A vessel with a faster drift rate and ideal seabed conditions may have the same probability of success as a slower vessel with poorer seabed conditions.

Seabed Conditions

Seabed conditions are another primary factor in the probability of self-arrest success. Ideal seabed conditions are soft with good holding capacity. Hard, rocky seabed conditions have a higher probability of breaking the ground tackle than holding the anchor and arresting the vessel. Soupy, loose bottom conditions are unlikely to develop full anchor load capacity. Some combinations of anchor types and sediment prevent full anchor embedment or provide intermittent holding capacity due to complex geotechnical processes.

Vessel Equipment

The anchoring system includes the anchor, anchor chain, windlass, anchor shackles, deck gear, and the supporting vessel structure. The system will likely be sized by regulatory requirements; for example, ABS Guidelines (Reference 6). The minimum required size is sufficient for anchoring under non-emergency situations at an anchorage. An anchorage will typically be in an area sheltered from environmental loads and with favorable seabed conditions. A larger, heavier anchor may impose a larger shock loading in the system when deployed in an emergency. A heavy anchor increases the probability of damage to the vessel during emergency deployment; however, the heavy anchor will be more effective at slowing down the vessel. A heavier anchor can also be more effective than a lighter anchor with less scope, as a lighter anchor needs a longer scope for equivalent holding. To increase the probability of self-arrest, it is better to have a heavier anchor and a longer, heavier, and stronger anchor chain with deck gear and vessel structure designed to support the breaking strength of the ground tackle.

Well maintained equipment contributes to the probability of self-arrest success. If tackle is corroded or fatigued, then its holding strength is reduced. In the case of the *Queen of Oak Bay* (Reference 7), the anchor windlass had recently been painted. The equipment was not tested after maintenance and, as it was stuck, could not be deployed for the self-arrest attempt. Similarly, in the case of the *Baltic Commander I*, the Captain attempted to self-arrest but the anchor could not be deployed for reasons that the US Coast Guard could not determine (Reference 8).

Vessel Location

The vessel location determines the depths and seabed conditions available for anchoring . Seabed condition was discussed above as a primary factor. The seabed depth, along with anchor road length deployed, determines scope.

> *A common rule of seamanship is "to use a length of chain equal to 5 to 7 times the depth of the water. This is satisfactory in depths of water not exceeding 18 fathoms. This amount of chain is perhaps enough for a ship riding steadily and without any greater tension on her cable." (Reference 9.)*

There is a trade-off in between too deep or too shallow water depth. Deeper water requires a longer chain to achieve scope. A longer chain requirement limits the ability to self-arrest in deep water. Dragging the suspended anchor and/or anchor chain through deep water will slow, but not stop, the vessel. Short scope increases uplift on the anchor and limits the ability to self-arrest. Water depth is shallower over a shoal or near shore. At best, anchors would be deployed in deep water, incrementally building load capacity and shedding vessel speed as the vessel moves into shallower water and road scope becomes more favorable.

Environmental Conditions

Vessel location and time determine tide height and environmental conditions. Wind, current, and wave conditions determine environmental loads on the vessel and its drift rate. Bad weather decreases the probability of success. The *Selengang Ayo* had arrested, seemingly successfully, on one and then on both anchors, before the severe environmental conditions continued to push the vessel ashore (Reference 3). Environmental conditions also affect other rescue measures and emergency procedures. Worse conditions reduce the probability of any risk reduction measure attempted.

No single factor dictates success or failure; the combination of multiple factors at the specific time, location, and environmental conditions for the specific vessel affect the outcome.

Self-Arrest Guidance

Because of the situational variability and uncertainty, there is no standard protocol to decide when to self-arrest or a single effective procedure to perform a self-arrest. The literature review found no such formalized or endorsed instructions for carrying out a self-arrest. Emergency anchoring is mentioned in guidelines and may even be part of a vessel's Safety Management Plan, but there is little protocol on when or how to attempt the maneuver. Capt. John Konrad (Reference 10) says that "the sin of grounding is letting it happen with an anchor in the hawespipe." He recommends attempting self-arrest despite the risk of broken or lost equipment and deploying more than one anchor, if necessary. An article by

ShipsBusiness.com (Reference 11) advises on when to ready anchors and how many to deploy in a critical situation, as follows:

> *Anchors should be ready for letting go on arrival and departure port, when in anchoring depths. At least, any wire lashings are to be removed and the anchors held on brake. In critical situations, to arrest the movement of the vessel, after stopping/reversing the main engine, it is preferable to let go both anchors simultaneously instead of one.*

The Standard P&I Club issues guidance for loss and accident prevention; their publication, *A Master's Guide to Berthing* (Reference 12), advises that emergency anchoring can be effective given specific circumstances with caution, as follows:

> *In an emergency, anchors can be very effective in stopping a ship, provided the anchor is lowered to the seabed and the cable progressively paid out. Initially, the anchor should be allowed to dredge and gradually build up its holding power until its braking effect begins to reduce the ship's speed. Care should be taken when trying to stop any ship in this way, especially a large ship, as the anchor and its equipment may 'carry away' causing damage or injury, if the anchor should snag.*

Before dragging the anchor along the seabed, the anchor, anchor chain, and even mooring lines can be used as a 'sea anchor' or drogue. The purpose of the drogue is both to point the bow into weather and to slow the drifting vessel. This method is called "improvisation, at best," by D.J. House (Reference 13).

Even though self-arrest is attempted in an emergency, which is usually time-critical, it should be attempted slowly and carefully. To reduce the time-critical nature of the emergency, Captain Kent Dresser (Reference14) suggests deploying anchors as soon as possible after the vessel begins to drift. A quick response gives the self-arrest attempt more time to be done, take hold, and stop the vessel before excessive drift speeds are developed. More time between the decision to self-arrest and the potential grounding decreases the likelihood of grounding, and increases the probability of a successful self-arrest.

Successful Self-Arrest Scenario

In a successful self-arrest, the drifting vessel's kinetic energy is dissipated by dragging and embedding the anchor and the vessel stops drifting at least long enough for a rescue vessel to arrive that can tow the distressed vessel to safety. For example, a successful self-arrest was made by dragging just the vessel's anchor chain while drifting for several hours and over about 15 miles. The 385' fishing barge *Fisherman's Paradise* broke free from its anchor, causing it to drift. The crew deployed the rest of the anchor chain which eventually caught the seabed[3] (Reference 2). The vessel held until a towboat arrived and brought it to a nearby yard for repair. A responsive crew, time, luck, and a heavy anchor chain, along with the

[3] Because the anchor chain acted like an anchor, this scenario is considered a self-arrest.

influence of other factors, prevented the grounding. No other incident reports were found for a successful self-arrest by a drifting vessel[4].

A longer narrative of a hypothetical successful self-arrest scenario is compiled from brief incident reports, guidance documents, and in-house interviews. After the captain decides to self-arrest, the anchor is deployed in a slow, controlled matter, to just above the seabed depth. At this depth, the anchor acts as a drogue to help slow the boat. Decreasing boat speed decreases the likelihood of breaking anchor tackle when the anchor hits the seabed. When the anchor hits the seabed on a short scope, it will dredge though the seabed as the vessel continues to drift. This will continue to slow down the vessel. The anchor road is paid out faster than the speed that the vessel is drifting in an attempt to lightly embed the anchor and increase the catenary weight in the anchor chain. The anchor embeds deeper and scope increases while the anchor line is paid out. As the speed drops towards zero, the anchor fully embeds, and the self-arrest holds. Self-arrest is possible given favorable conditions. This hypothetical scenario had the following, qualitative conditions:

1. Long enough chain.
2. Adequate hardware load capacity in the load path from anchor to vessel structure.
3. Long enough distance to shore.
4. Mild enough environmental conditions.
5. Soft seabed with sufficient holding power.
6. Adequate water depth.
7. Well trained crew and knowledgeable captain.

Scenarios for Cook Inlet

Drifting scenarios for Cook Inlet are posed, and a qualitative probability of self-arrest is estimated. Drifting scenarios are based on the distressed vessel scenarios studied in the *CIRA Task 7 Tug of Opportunity Study* (Reference 16). Representative vessels, drifting vessel locations, and environmental condition were prescribed. The *Horizon Consumer*, a containership, and the *Overseas Boston*, an oil tanker, were representative distressed vessels. The three locations are given in Table 1. Environmental conditions at these locations for annual 50th (median) and 90th percentiles are given in Table 2 (Reference 17). Approximate depth, seabed conditions, and subsea assets for these locations were found on NOAA Charts 16640 and 16663 (References 18 and 19). These additional factors in the probability of self-arrest are summarized in Table 3. It is presumed that this is the extent of information available to a captain.

Table 1 Cook Inlet Drifting Vessel Scenario Locations

	Latitude	Longitude
Upper Cook Inlet	60.888264	-151.235733
Kachemak Bay	59.489567	-151.766220
Kennedy Entrance	59.074158	-151.996857

[4] The incident report review was not exhaustive. There may very well be other successful self-arrests which prevented a drift grounding that are unknown to the author. Near-misses and successful self-arrests may be less likely to be reported than failed attempts. There has been at least one successful self-arrest from an underway vessel. An underway containership dropped anchor and successfully avoided a collision (Reference 15) .

Table 2 Cook Inlet Drifting Vessel Scenario Environmental Conditions by Location and by Percentile

Environmental Condition	Location					
	50th Percentile			90th Percentile		
Parameter	Upper	Kachemak	Kennedy	Upper	Kachemak	Kennedy
Ice coverage (%)	0.0	0.0	0.0	70.0	0.0	0.0
Ice thickness (mm)	0.0	0.0	0.0	300.0	0.0	0.0
Current speed (kts)	3.8	0.6	1.8	5.2	0.8	2.5
Wave height Hs (m)	0.5	0.5	1.6	0.0	1.4	3.8
Wave period Tm (s)	4.6	4.6	5.6	0.0	4.8	7.7
Wind speed (kts)	7.4	7.2	12.2	14.9	17.1	25.8

Table 3 Factors in Probability of Self-Arrest available from NOAA Chart

Parameter	Upper Inlet	Kachemak Bay	Kennedy Entrance
Approximate Depth (ft)	120	120	630
Seabed Condition	Pebbles, Gravel	Pebbles, Sand, Kelp	Rocky
Subsea Assets	Pipeline Area	None	Submarine Cable

Additional information could be available to the captain. A knowledgeable captain would also be familiar with his vessel's equipment. A captain familiar with Cook Inlet may have additional knowledge on the seabed, bottom obstructions, shoreline, and current direction. These secondary factors are not specified in this qualitative assessment.

Predictions for drift rate, drift direction, and in turn, time to shore are made with simple assumptions for these three scenario locations. The vessel will likely drift with the current. Tidal current direction in Cook Inlet is along the inlet length, approximately NE-SW in Upper Cook Inlet. The Upper Cook Inlet emergency site is in the middle of the inlet, exposed to current. The shortest northerly fetch is approximately 11 nm to East Foreland.

Kachemak Bay is off the inlet length, less exposed to current. Its closest shore is only 2 nm away, at Seldovia Point. With a 0.6 kt drift speed, a vessel could be blown aground into the Point in under 4 hours.

A vessel drifting from the Kennedy Entrance emergency site would not anchor in place due to the great depth. The vessel would likely first drift to shallower waters before attempting to self-arrest. The Kennedy Entrance emergency site is fully exposed to the current, approximately NW-SE at the inlet entrance. This trajectory may or may not displace the vessel away from the subsea cables, also running approximately NW-SE. There is shallower, open water along the inlet to the northwest. However, there are rocks and a reef approximately 5 nm to the northeast and rocks and islands approximately 6 nm to the south. With a 1.0 kt drift speed, a vessel could ground in under six hours. Four to six hours to ground is a relatively short, but not necessarily a prohibitively short period in which to self-arrest.

Drifting vessels may have a higher probability to self-arrest as it drifts away from the initial emergency scenario locations due to the depth or subsea obstructions at the site. The probability of self-arrest for the six scenarios is estimated in Table 4.

Table 4 Cook Inlet Scenario Self-Arrest Probability Estimates

Scenario	Environmental Condition	Location	Probability
1	50th	Upper	Near Zero
2		Kachemak	Low
3		Kennedy	Very Low
4	90th	Upper	Near Zero
5		Kachemak	Low
6		Kennedy	Very Very Low

The Upper Cook Inlet emergency site it is directly above a Pipeline Area. Three pipelines cross the Upper Cook Inlet. Although seabed conditions and depth are relatively favorable, dropping anchor at this site would require highly specific information about pipeline locations. Without this information dropping anchor in a pipeline area would risk significant oil pollution. Because of the pipelines and the high current speed, it is estimated that there is near zero probability of self-arrest from the northernmost emergency site.

Self-arrest probability from Kachemak Bay is low, but the highest of the three locations. While seabed conditions may be too loosely packed for adequate anchor holding, there is less risk of breaking equipment. There is no risk of damaging subsea assets. A drifting vessel could attempt self-arrest in an emergency, particularly with the risk of grounding against the steep coast on the eastern shoreline.

Vessels adrift from the Kennedy Entrance have greater uncertainty in drift speed and direction and therefore greater uncertainty as to when and where a self-arrest can be attempted. Higher uncertainty is estimated to reduce the probability of success. The probability of a successful self-arrest in Kennedy Entrance at the 50^{th} and 90^{th} percentile is estimated to be very low and very very low, respectively.

Conclusions

Self-arrest is not a reliable risk reduction option. While it is regularly attempted, it does not usually succeed. Under some conditions, it is not even appropriate to attempt. Factors of the waterway, vessel, and environmental conditions can cause failure. Attempting to self-arrest has risks, potentially great ones, and an overall low probability of success.

Future Work

Future work is appropriate to validate the probability estimates. This memo reports findings from a cursory study, including a literature review and interviews with in-house experts. Incident reports from the Alaska Department of Environmental Conservation (ADEC) and the US Coast Guard, along with expertise gathered from pilots familiar with the inlet and with the self-arrest maneuver, could help support and quantify the estimates.

CIRA: TUG OF OPPORTUNITY SUBTASK

Evaluation of 2012 Tugboat Response Times

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DOC: 11054.03-7.4 REV: — FILE: 11054.03	DATE: 13 December 2013

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Summary

This report details the procedure developed by The Glosten Associates (Glosten) to estimate the availability of tugs around Cook Inlet, Alaska, to assist a vessel in distress. Twelve distressed vessel cases were studied, including two environmental conditions and three incident locations. For each case, response time and capability are estimated for 1,044 potential tug of opportunity

Automated Information System (AIS) position data points from Wednesdays in Cook Inlet in 2012. The resident tugs in Cook Inlet exhibit the fastest response times. Most response times exceed 18 hours. There is no capability to turn a vessel in ice or to tow a vessel in ice against at 5 kt current. This sample shows lower availability to rescue a vessel in Upper Cook Inlet as compared to southern regions with milder environmental conditions, closer to potentially available tugs.

Objective

The Tug of Opportunity study evaluates the availability of underway and stand-by tugs, and the capability of available tugs to rescue a distressed vessel. Availability is estimated by calculating tug response time to the distressed vessel. Capability is estimated by comparing the available tug's bollard pull with the required bollard pull to turn or arrest the distressed vessel; assuming the agreed upon representative vessel, vessel location, and environmental conditions. This study is part of Glosten's scope of work for the risk assessment of Cook Inlet facilitated by Nuka Research.

Case Matrix

Availability and capability are estimated for all the potential rescue vessels in and around Cook Inlet and Prince William Sound, as recorded in Automated Information System (AIS) position data for each Wednesday at noon in the 2012 calendar year. AIS data points are provided by Nuka Research, along with principal characteristics of the vessels (References 1 and 2). Potential rescue vessel types include harbor tugs, escort tugs, offshore supply vessels, and US Coast Guard vessels; however, the potential rescue vessels are all referred to as 'tugs' in this report. There are 107 tugs with 1,044 AIS points in the analyzed dataset.

Response time and capability calculations are made for multiple incident sites, representative distressed vessels, and environmental conditions. There is one incident site located in each of the major environmental regions in Cook Inlet: Upper Cook Inlet, Kachemak Bay, and Kennedy Entrance. A tanker and a containership are used as the representative vessels that are frequently in the Inlet. The two environmental conditions are the 50th (median) and 90th (extreme) percentiles of annual statistics. Capability is estimated for 12 cases (3 sites, 2 environmental conditions, and 2 vessels). Response time is estimated for these same 12 cases plus two cases for effects with and against (assisting and opposing) currents. Response time and capability are estimated for 1,044 AIS points.

Route Distance Methodology and Assumptions

Simplifying assumptions are made in order to automate the calculations as much as possible to reduce the complexity of each of the several parts of this analysis. This section details these assumptions.

It is assumed that the tug of opportunity had enough fuel and water to complete the voyages necessary to get to the incident site. Since one of the purposes of this analysis is to identify the spectrum of response times for all the tugs in the Cook Inlet area, this assumption may not always be valid for tugs located far away from the incident site.

The data provided in Reference 2 is reviewed and modified as follows. Maritime Mobile Service Identity (MMSI) IDs are corrected, and vessels that are unable to perform tug of opportunity tasks culled out, for example science and anti-pollution vessels. US Coast Guard vessels are included in the analysis because it was assumed that, in an emergency, they would be made available to assist in efforts. The bollard pull of the two US Coast Guard vessels with gas-turbines are assumed to be limited by the tow line strength and are set to equal the bollard pull of the largest tugboats. The Ship Escort/Response Vessel System (SERVS) Tugboats starting in Prince William Sound (PWS) are included in the dataset. All other tug boats in PSW are assumed to be towing, and thus are culled from the analysis because it is assumed that at the towing transit speed they would not be able to respond quickly enough to be effective for incidents in Cook Inlet. After culling, there are 107 tugs and 1,044 points remaining in the analyzed AIS dataset.

Tugs are routed from their AIS starting point, to a Barge Drop-Off Port (BDOP) if applicable, and to the incident site. Resident tugs of Cook Inlet and the PWS SERVS tugs are assumed to proceed directly to the incident site. All other tugs are assumed to be in or near the inlet because they are towing a barge, which would need to be dropped off prior to proceeding to the incident site.

It is assumed that it takes 2 hours to hand off the barge after arriving at the BDOP, 1.5 hours to get a towline to the distressed vessel at the site, and another 0.5 hours before the tug can effectively pull on the distressed vessel. These extra times are added to each voyage as appropriate.

Route Distance Calculation

Routes are charted along waypoints through navigable waters. All the provided AIS latitude and longitude starting points are contained within the area in and around Cook Inlet and Prince William Sound. This area is subdivided into seven Initial Position Zones, as shown in Figure 1, which largely coincide with the environmental regions. The three environmental regions coincide with the seven Initial Position Zones:

- Upper Cook Inlet, north of the East and West Forelands, Zone 1.
- Middle Inlet and Kachemak Bay, between Nikiski and Point Adams on the Kenai Peninsula, Zone 2.
- Kennedy Entrance, south of Point Adams to north of the Barren Islands, Part of Zone 3.
- Open Ocean, outside of Cook Inlet, the remainder of Zone 3 and Zones 4-7.

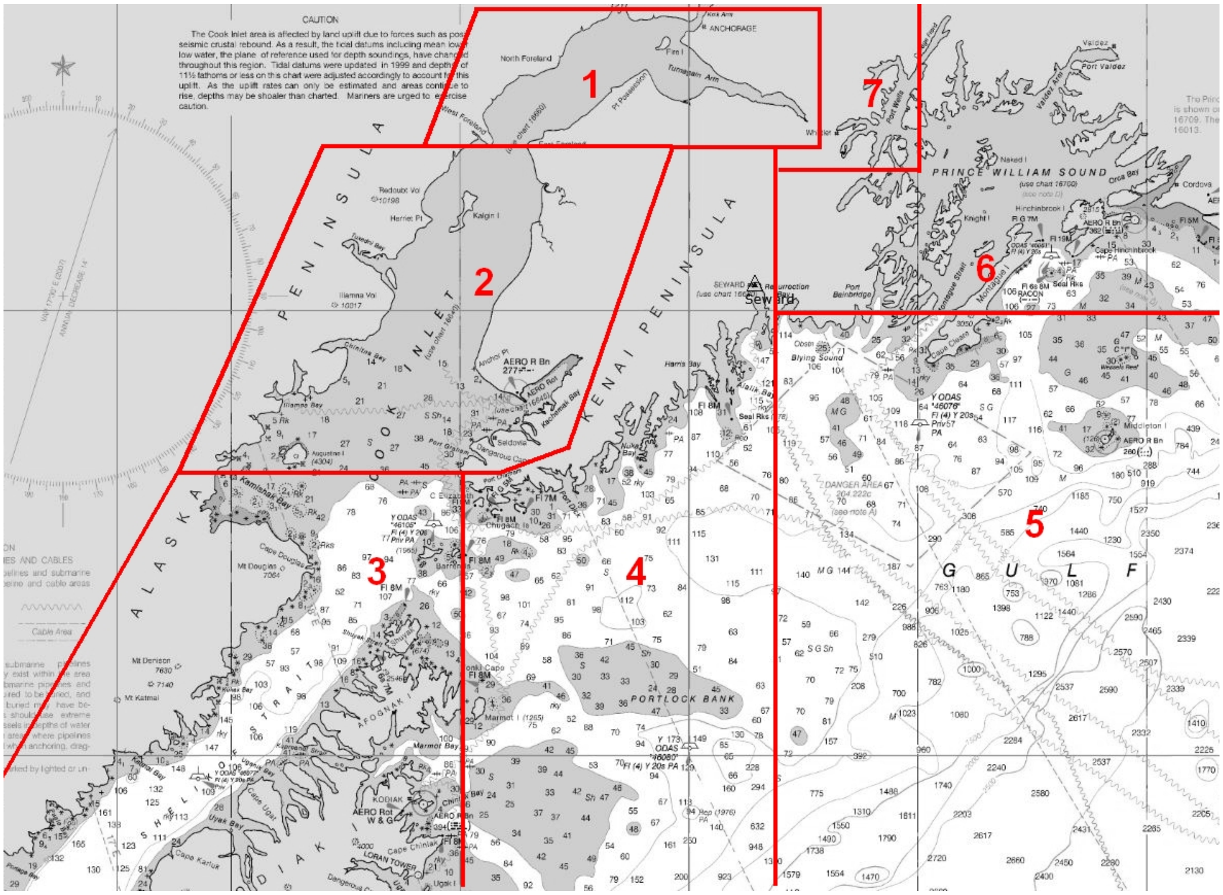

Figure 1: Cook Inlet tug of opportunity initial position zone definitions

The six Barge Drop-Off Ports (BDOPs)are:

- Anchorage
- Nikiski
- Drift River
- Homer
- Seldovia
- Port Graham

Figure 2 shows an example waypoint route for a tug starting in Zone 4 at Seward and towing a barge to the Nikiski BDOP. The distance between the Seward Inlet Waypoint and Nikiski is 196 nautical miles (nm): 92 nm in Open Ocean, 11 nm through the Kennedy Entrance environmental region, 90 nm through the Middle Inlet region, and 3 nm through the Upper Cook Inlet region. Not shown are the first leg to the Seward Inlet Waypoint and the last leg from the BDOP to the incident site.

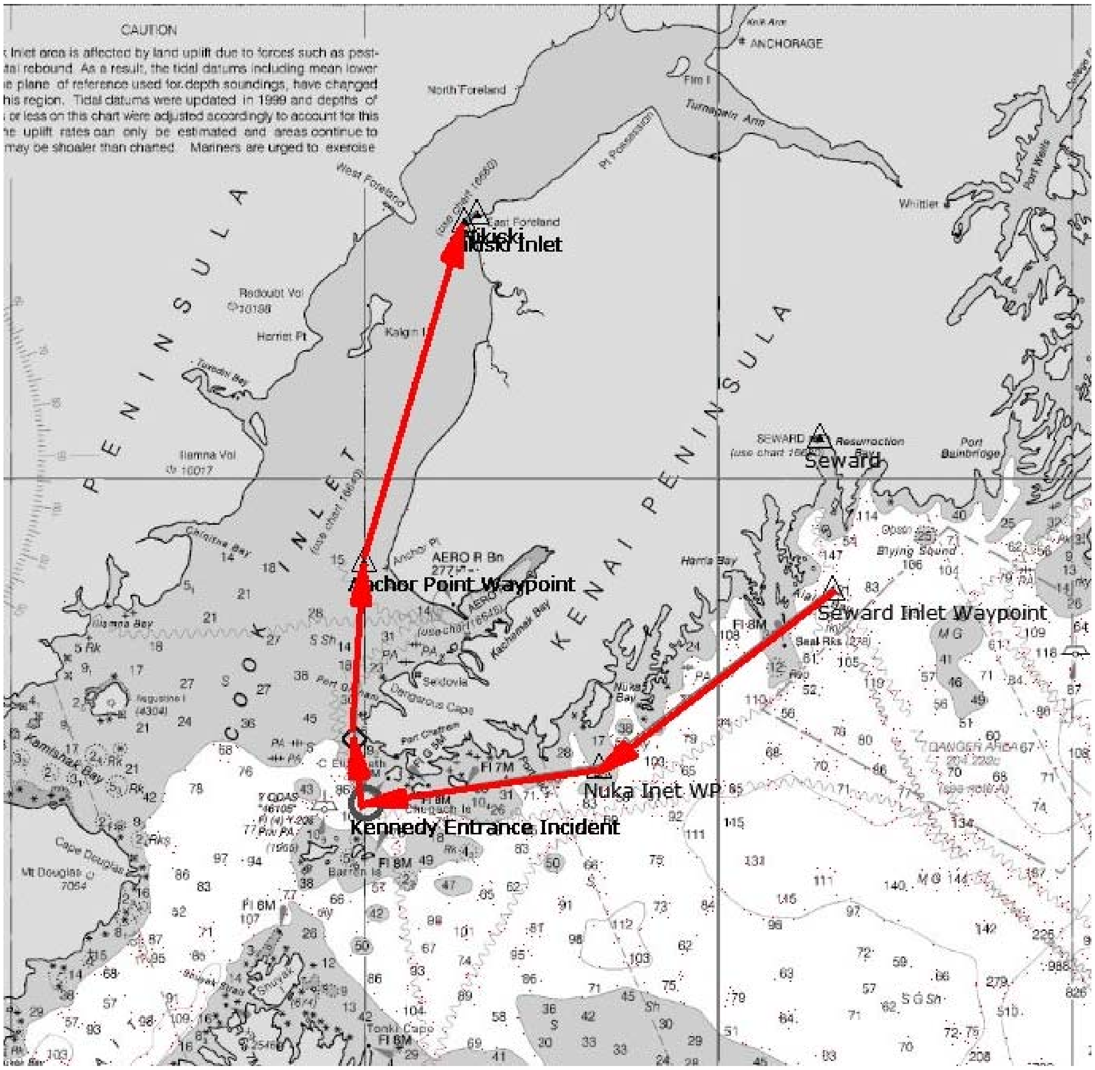

Figure 2 Example pre-planned route from Zone 4 to Nikiski

Voyage distance is calculated as the total of three legs:

1) The Great Circle distance from the tug's initial position in its initial position zone to the closest zone waypoint on a pre-planned fixed route.
2) The distance along the defined routes to the destination (the BDOP or incident site).
3) If towing, the distance from the BDOP to the incident site.

Total response time for tugs engaged in towing is calculated to each of the six BDOPs, and then from the BDOP free-running to each of the three incident sites. The minimum time from the six BDOPs is reported.

Anchorage and Nikiski BDOPs and the Upper Cook Inlet incident site are in Zone 1 and are subject to ice loads. The remaining BDOPs and the Kachemak Bay incident site fall into Zone 2. The Kennedy Entrance incident site is at the boundary of Zones 3 and 4. The open ocean environmental conditions are assumed to have the same sea state as defined for the Kennedy Entrance environmental region, but with no current. All vessels outside of Cook Inlet in Zones 3-7 are assumed to transit to the Kennedy Entrance in the open ocean weather prior to proceeding to their Cook Inlet destination.

Reference 2 details the 50th (median) and 90th percentile environmental conditions for each of the three Cook Inlet environmental regions, which are necessary for voyage speed estimation.

Vessel Speed Estimation

The maximum free-running in calm weather speed is estimated from the reported horsepower of the tug, unless it is given for the tug in the area traffic data file (Reference 2). A polynomial relationship was interpolated from the reported horsepower and speed data pairs provided during the Aleutian Island Risk Assessment (AIRA). Similarly, if not reported directly from the references, the tug bollard pull was estimated using the same technique, except for the two previously specified USCG vessels.

Maximum free-running speed is scaled down for higher sea states and for towing a barge. Two sources are used. Nobel-Denton is a general approach to account for sea state and barge towage (Reference 5). This formula is plotted in green in Figure 3. The second source is three data points from Little River consultants, specifically for operating in Alaska (Reference 6). The AIRA Little River speed knockdowns are 75% of the Nobel-Denton towage speed knockdowns, in the relevant speed range for this analysis. These points are plotted in purple. This source governs, because it is more conservative and more specific to this project's application. The Nobel-Denton formula was scaled down to align with the Little River Data, and this formula was used to calculate the speed knockdown factor by significant wave height.

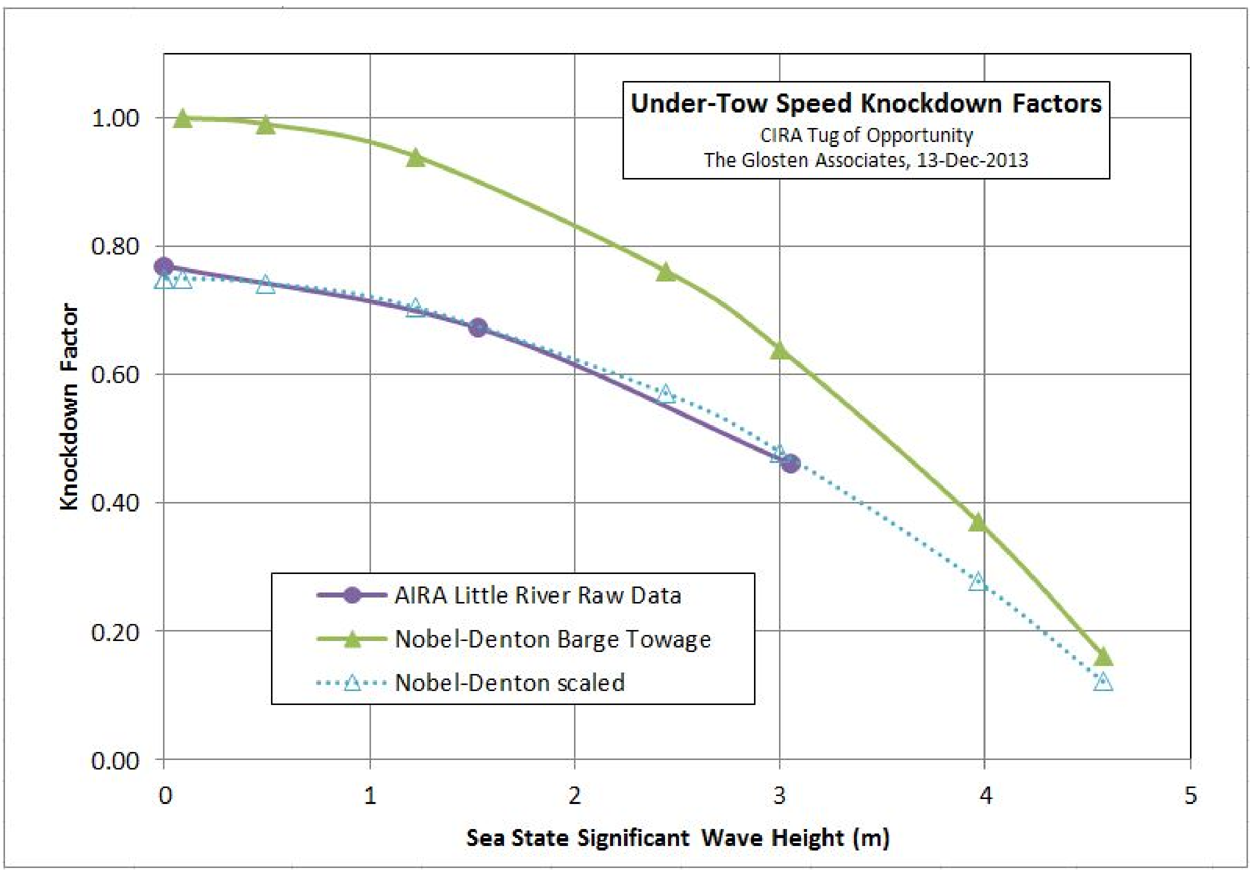

Figure 3 Comparison of Nobel-Denton and Little River under-tow speed knockdown factors

With respect to speed reduction in ice, during a teleconference (Reference 4), Captain Audette stated that a typical speed knockdown for a tug under tow through 7/10 coverage, 30 cm thick, first-year ice was from 4-5 knots to 1.5-2.5 knots through the water for a 4,000 horsepower tugboat. The average of these values is used to estimate speed knockdowns on free-running in ice and towing in ice for a similarly sized tugboat, which under the polynomial approximation used prior has a maximum free-running speed of 13 knots. These speed-in-ice proportional relationships are assumed to hold for tugs of all horsepower. This generalization is appropriate because the estimated tug response times through ice-infested Upper Cook Inlet match the observation stated by Capt. Audette that, when towing barges through ice, voyages are planned for travel with the tide direction only. Cook Inlet has the highest tidal variation in the United States resulting in currents that, when combined with ice, make it nearly impossible to maneuver barges against it. The effects of tidal currents are included as a direct addition or subtraction to the tug speed while transiting through each of the three environmental regions in Cook Inlet. Since Cook Inlet currents vary with semidiurnal frequency, voyage times that are not even multiples of 12 hours are affected. The tidal current effect is accounted for by calculating the current exposure time, which is the remainder of the voyage time from a 12-hour multiple. For a less than six hour remainder, the current effect is added/subtracted for the exposure time. When the remainder time is greater than six hours, exposure is reduced by the amount of time over six hours as shown in Figure 4. This accounts for the period of time over six hours where the current has again reversed.

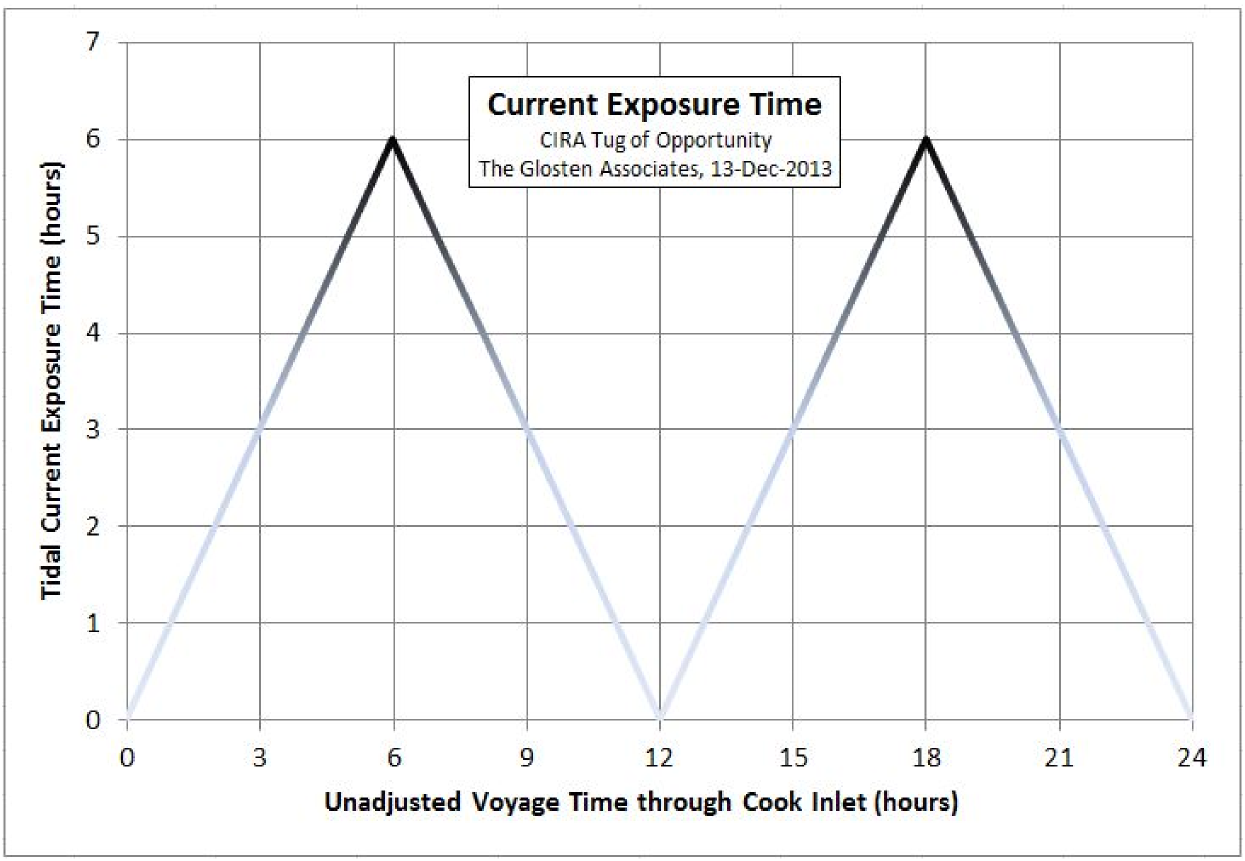

Figure 4 Cumulative tidal current exposure time versus voyage time through Cook Inlet

The environmental conditions that effect the tug response times, and also are input to calculate the tug capability required to assist a distressed vessel.

Required Tug Bollard Pull Estimate

The towing performance capacity required of a tug to arrest distressed vessels in the prevailing weather conditions is estimated using a methodology for calculating environmental loading developed for the *Minimum Required Tug Analysis* of the AIRA (Reference 7). Tow loads for turning and arresting, turning only, and arresting only are calculated for two representative vessels in a series of load cases. The minimum required tug bollard pull is the greater of the turning only load or the arresting only load, divided by an efficiency factor. The efficiency factor is the degradation of bollard pull as a function of wave height (Reference 14).

Representative Vessels

Fifteen (15) specific vessels made 81% of the ~500 light and deep draft port calls in Cook Inlet in 2010 (Reference 8). These included three passenger vessels, six cargo ships, and six tank vessels. Two of the largest of these vessels, a 25,750 MT containership and a 338,220 BBL crude oil tanker, were selected as representative vessels for calculating the tug bollard pull rating required to arrest vessels of the type typically found operating in Cook Inlet. Particulars of the representative vessels are summarized in Table 1.

Table 1 Representative Vessel Particulars

		Containership Particulars	Oil Tanker Particulars
Capacity		1,476 TEU	338,220 BBL
Vessel name		*Horizon Consumer*	*Overseas Boston*
LOA	m	219.58	183.20
LBP	m	206.34	174.00
Beam, molded	m	28.95	32.20
Depth, molded	m	16.46	18.80
Draft, full load	m	10.39	12.20
Displacement, full load	MT	25729	56242
Gross tonnage	GT	25644	29242

Assumptions

Environmental loads consist of forces imposed on the distressed vessel by current, waves, wind, and ice (when applicable). The assumptions governing the required tug calculation are as follows:

- The tug is required to arrest the distressed vessel, but not tow it (i.e., the towing speed with respect to land is 0 m/s).
- The tug turns the distressed vessel by towing the vessel from the bow at a right angle to the vessel's heading.
- Current and ice forces are co-linear.
- The arrest heading of the distressed vessel is directly opposed to the direction of current and ice flow ($\theta_{current,ice} = 180°$) .
- Wind and wave forces are co-linear and heading-independent of current/ice forces.

- When calculating turning only load, the coupled tug and distressed vessel are assumed to drift with the current until the vessel is aligned with the flow.

Environmental Conditions

Six (6) load cases are specified, with each load case describing one of the three (3) regions of Cook Inlet during one of two (2) environmental conditions. The three regions, in order of northernmost to southernmost, are Upper Inlet, Kachemak Bay, and Kennedy Entrance. The two environmental conditions are the 50th and 90th percentiles of annual statistics. Six (6) parameters define the environmental loads (current, waves, wind, and ice) on the representative vessels, which are:

i. Ice coverage (% of water area covered)
ii. Ice thickness (centimeters)
iii. Current (knots)
iv. Wave height (meters)
v. Wave period (seconds)
vi. Wind speed (knots)

The environmental parameter inputs for each load case, as given by NUKA in Reference 1, are summarized in Table 2.

Table 2 Environmental Conditions for Each Load Case

Environmental Condition	Load Case					
(percentile)	50th	50th	50th	90th	90th	90th
Region	Upper	Kachemak	Kennedy	Upper	Kachemak	Kennedy
Parameter						
Ice coverage (%)	0%	0%	0%	70%	0%	0%
Ice thickness (cm)	0	0	0	30	0	0
Current (kts)	3.8	0.6	1.8	5.2	0.8	2.5
Wave height Hs (m)	0.5	0.5	1.6	0.0	1.4	3.8
Wave period Tm (s)	4.6	4.6	5.6	0.0	4.8	7.7
Wind speed (kts)	7.4	7.2	12.2	14.9	17.1	25.8

Methodology

The minimum required tug rating for each load case represents the greater of the calculated turning only load, or arresting only load divided by tug efficiency. Each type of load is calculated as the sum of the current, wave, wind, and ice loads upon the vessel, during either turning or arresting, at each 10° increment of a 360° range of wind/wave incident angles. The calculated environmental load is the maximum of all wind/wave heading angles. Current, wave, wind, and ice forces are calculated using the methods presented in References 9, 10, 11, and 12, respectively.

Ice Load Case

The minimum tug bollard pull required to turn an incident vessel in ice is estimated by rotating by 90° the axis system of the ice resistance calculation presented in Reference 12, to simulate a sideways tow through ice. The substantial sideways tow load developed using this methodology is corroborated by the experimental results presented in Reference 13. The sideways-tow load is then distributed along the length of the vessel, and the moment required to turn the vessel by towing the bow at a right angle is calculated.

Calculations performed for the 90th Percentile Upper Inlet load case indicate that the required tug bollard pull for turning the representative vessels in 30 cm of ice would be approximately 300 MT for the containership and 210 MT for the oil tanker. These demands greatly exceed the towing performance of any available tug. This finding agrees with Captain Audette's evaluation of available tug towing performance in ice; namely, that even smaller barges towed through Cook Inlet cannot be turned in ice (Reference 4). In the event that a vessel begins drifting in ice in the Upper Inlet area, a tug will not be capable of turning the vessel into the bow-on, 0° heading required to arrest.

If the drifting vessel is already aligned against the direction of current/ice flow when the tug arrives, then the tug may tow it. The arresting only load is 58 MT in the 90th Upper Inlet load case. Maximum tug efficiency for towing with no waves is 80% (Reference 14), but efficiency decreases for towing with no waves in ice.

Capt Audette stated that tug under-tow speed in ice is 1.5-2.5 kts through the water (Reference 4). A tug towing in ice with a max speed of 2.5 kts through the water cannot overcome a 5.2 knot current. Therefore, there is no capability to turn or to tow a distressed vessel for the 90th Percentile Upper Cook Inlet load case.

Summary of Required Tug Bollard Pull

The maximum required tug bollard pulls for the containership and oil tanker are 72 MT and 67 MT of bollard pull, respectively, in the 90th percentile condition in Upper Cook Inlet. For both vessels, this load case represents the worst case as a result of the 7/10 coverage of 30 cm pan ice. When considering non-ice load cases, the greatest required tug bollard pull is no more than approximately 30 MT for both vessels in the Winter Kennedy Entrance case. Tables 3a and 3b summarize the required tug bollard pulls calculated in each load case for the containership and oil tanker, respectively.

Table 3a Required Tug Bollard Pull by Load Case for Containership

Environmental Condition (percentile)	Load Case					
	50th	50th	50th	90th	90th	90th
Region	**Upper**	**Kachemak**	**Kennedy**	**Upper**	**Kachemak**	**Kennedy**
Turning and Arresting (MT)	70.60	3.20	20.70	–	11.90	47.50
Turning Load Only (MT)	0.80	0.80	2.60	–	4.30	7.70
Arresting Load Only (MT)	15.00	0.80	5.40	–	3.10	23.60
Tug Efficiency	0.80	0.80	0.80	–	0.80	0.78
Required Tug Bollard Pull (MT)	18.70	1.00	6.70	–	5.40	30.30

Note: No tug is capable of meeting the load case marked: - .

Table 3b Required Tug Bollard Pull by Load Case for Oil Tanker

Environmental Condition (percentile)	Load Case					
	50th	50th	50th	90th	90th	90th
Region	Upper	Kachemak	Kennedy	Upper	Kachemak	Kennedy
Turning and Arresting (MT)	69.90	3.20	20.40	–	11.70	46.60
Turning Load Only (MT)	0.80	0.70	2.60	–	4.30	8.40
Arresting Load Only (MT)	14.80	0.80	5.20	–	3.00	21.30
Tug Efficiency	0.80	0.80	0.80	–	0.80	0.78
Required Tug Bollard Pull (MT)	18.50	1.00	6.50	–	5.40	27.30

Note: No tug is capable of meeting the load case marked: - .

While variation in each environmental parameter has a measurable impact on tug requirement, current and ice thickness are the more significant drivers of the required tug rating.

Results

AIS data points from Wednesdays in 2012 represent a sample of potential tugs of opportunity. The analyzed dataset contained 1,044 data points from these 52 days. Tug availability and capability may vary in future years. Data points are not distributed evenly throughout the year. Seasonal or daily availability is not considered. Results are presented as percentages of the 1,044 potential tug of opportunity data points sampled in 2012.

The tug of opportunity capability is evaluated based on whether the bollard pull of the tug is greater than the estimated minimum required bollard pull for each of the representative vessels, in each of the two specified environmental conditions, and for each of the three incident sites. All tugs in the sample are capable of assisting both representative distressed vessels in the 50th percentile environmental condition load cases, with a small exception for the Upper Inlet. Upper Inlet at the 90th percentile load case showed the least capability. Table 4 summarizes the percentage of AIS tug data points capable of rescuing both, neither, and either one of the representative vessels.

Table 4 Percentage of Sample Tugs of Opportunity Capable of Assisting Distressed Vessel

Environmental Condition (percentile)	Load Case					
	50th	50th	50th	90th	90th	90th
Region	Upper	Kachemak	Kennedy	Upper	Kachemak	Kennedy
Tanker	97%	100%	100%	0%	100%	83%
Containership	97%	100%	100%	0%	100%	82%
Neither Representative Vessel	3%	0%	0%	100%	0%	17%

While most tugs in and around Cook Inlet are capable in most load cases, most response times are greater than 18 hours. The response time from the AIS tug data points capable of rescuing both representative vessels in each of the six load cases is summarized in Table 5 and Figure 5. Appendix A gives response time and capability for all 12 cases and for all 1,044 AIS points. This sample shows no availability to turn or arrest a vessel in ice, and lower availability to rescue a vessel in Upper Cook Inlet, as compared to southern regions, which are closer to the Initial Position Zones and have milder environmental conditions.

Table 5 Total Voyage Time of Tugs That Can Assist Both Representative Vessels

Environmental Condition (percentile)	Load Case					
	50th	50th	50th	90th	90th	90th
Incident Site	Upper	Kachemak	Kennedy	Upper	Kachemak	Kennedy
< 6 hours:	5%	7%	2%	0%	8%	2%
6-12 hours:	18%	14%	17%	0%	8%	15%
12-18 hours:	10%	29%	43%	0%	8%	6%
> 18 hours:	64%	50%	38%	0%	76%	59%
Sum:	97%	100%	100%	0%	100%	82%

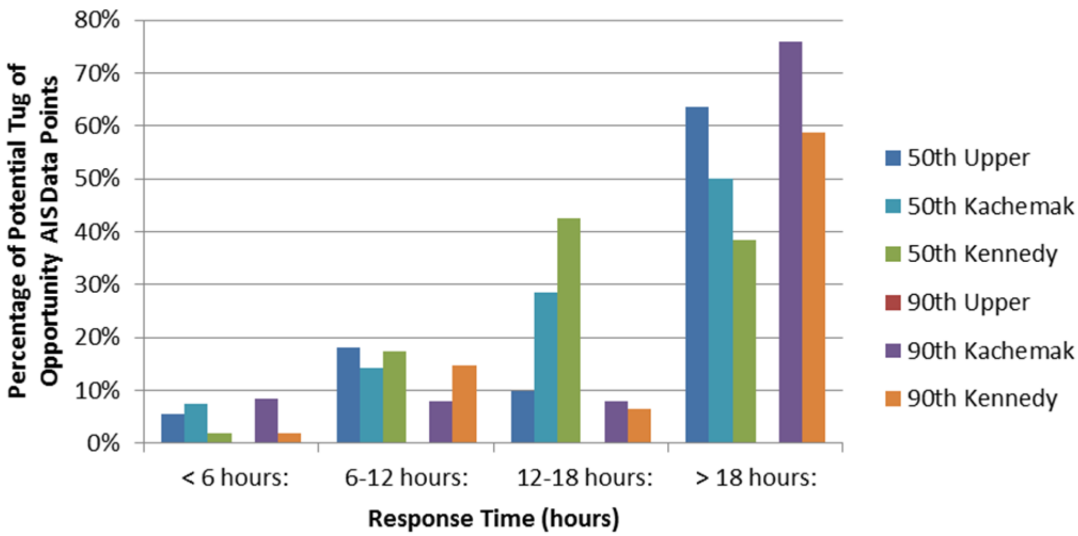

Figure 5 Voyage time histogram of Sample Tugs of Opportunity that can assist both representative vessels by environmental condition and incident site

Appendix A Adjusted Voyage Time and Capability Table

Summary Results
Tug of Opportunity Study
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	Upper		Kachemak Bay		Kennedy Entrance	
Incident Vessel: Tanker or Containership (Cont.)	Tanker	Cont.	Tanker	Cont.	Tanker	Cont.
Bollard Pull Required for Median Conditions (MT):	18.5	18.7	1.0	1.0	6.5	6.7
Bollard Pull Required for 90% Conditions (MT):	210	300	5.4	5.4	27.3	30.3

N/A result for:
- Non-SERVS Vessels in Prince William Sound (Zones 6 and 7)
  (SERVS = Ship Escort/Response Vessel System)
- Vessels with reported Bollard Pull < 1 MT

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 01 04	366779440	ATTENTIVE	61.1217	-146.343	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 01 04	366779440	ATTENTIVE	61.1217	-146.343	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 01 18	366779440	ATTENTIVE	60.2949	-146.734	N	14.335	6	150	21	24	26	29	Both	Neither	17	17	20	21	Both	Both	15	15	18	18	Both	Both
2012 01 25	366779440	ATTENTIVE	60.9822	-146.782	N	14.335	6	150	23	26	29	31	Both	Neither	19	20	23	23	Both	Both	17	17	21	21	Both	Both
2012 02 01	366779440	ATTENTIVE	61.1143	-146.292	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 02 08	366779440	ATTENTIVE	60.3015	-146.676	N	14.335	6	150	21	24	26	29	Both	Neither	17	17	20	21	Both	Both	15	15	18	18	Both	Both
2012 02 15	366779440	ATTENTIVE	61.1136	-146.357	N	14.335	6	150	24	27	30	33	Both	Neither	20	20	24	24	Both	Both	18	18	22	22	Both	Both
2012 02 22	366779440	ATTENTIVE	61.11	-146.283	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 02 29	366779440	ATTENTIVE	61.1112	-146.286	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 03 07	366779440	ATTENTIVE	60.7993	-147.029	N	14.335	6	150	22	25	28	30	Both	Neither	18	19	22	22	Both	Both	16	16	20	20	Both	Both
2012 03 14	366779440	ATTENTIVE	61.1217	-146.343	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 03 21	366779440	ATTENTIVE	61.0206	-146.726	N	14.335	6	150	24	26	29	32	Both	Neither	20	20	23	24	Both	Both	17	17	21	21	Both	Both
2012 04 04	366779440	ATTENTIVE	61.1112	-146.285	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 04 18	366779440	ATTENTIVE	61.111	-146.282	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 04 25	366779440	ATTENTIVE	61.0875	-146.426	N	14.335	6	150	24	27	30	32	Both	Neither	20	20	24	24	Both	Both	18	18	22	22	Both	Both
2012 05 02	366779440	ATTENTIVE	60.3445	-146.555	N	14.335	6	150	22	24	27	29	Both	Neither	18	18	21	21	Both	Both	15	15	19	19	Both	Both
2012 05 16	366779440	ATTENTIVE	60.588	-146.898	N	14.335	6	150	22	25	27	30	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 05 23	366779440	ATTENTIVE	61.1218	-146.343	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 05 30	366779440	ATTENTIVE	61.1216	-146.344	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 06 06	366779440	ATTENTIVE	60.6074	-147.185	N	14.335	6	150	22	24	27	29	Both	Neither	17	18	21	21	Both	Both	15	15	18	18	Both	Both
2012 06 13	366779440	ATTENTIVE	60.6612	-147.284	N	14.335	6	150	22	24	27	29	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 06 20	366779440	ATTENTIVE	61.1108	-146.281	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 07 11	366779440	ATTENTIVE	60.339	-146.574	N	14.335	6	150	22	24	27	29	Both	Neither	18	18	21	21	Both	Both	15	15	19	19	Both	Both
2012 07 18	366779440	ATTENTIVE	60.5838	-147.168	N	14.335	6	150	21	24	27	29	Both	Neither	17	18	21	21	Both	Both	15	15	18	18	Both	Both
2012 07 25	366779440	ATTENTIVE	60.3014	-146.667	N	14.335	6	150	21	24	26	29	Both	Neither	17	17	20	21	Both	Both	15	15	18	18	Both	Both
2012 08 01	366779440	ATTENTIVE	60.3024	-146.673	N	14.335	6	150	21	24	26	29	Both	Neither	17	17	20	21	Both	Both	15	15	18	18	Both	Both
2012 08 08	366779440	ATTENTIVE	60.3445	-146.554	N	14.335	6	150	22	24	27	29	Both	Neither	18	18	21	21	Both	Both	15	15	19	19	Both	Both
2012 08 15	366779440	ATTENTIVE	61.1137	-146.29	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 08 22	366779440	ATTENTIVE	60.3392	-146.574	N	14.335	6	150	22	24	27	29	Both	Neither	18	18	21	21	Both	Both	15	15	19	19	Both	Both
2012 08 29	366779440	ATTENTIVE	61.1097	-146.285	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 09 05	366779440	ATTENTIVE	60.4172	-146.835	N	14.335	6	150	21	24	26	29	Both	Neither	17	17	21	21	Both	Both	15	15	18	18	Both	Both
2012 09 12	366779440	ATTENTIVE	60.461	-146.93	N	14.335	6	150	21	24	26	29	Both	Neither	17	17	21	21	Both	Both	15	15	18	18	Both	Both
2012 09 19	366779440	ATTENTIVE	60.307	-147.016	N	14.335	6	150	21	24	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 09 26	366779440	ATTENTIVE	60.3057	-147.025	N	14.335	6	150	21	23	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	17	17	Both	Both
2012 10 05	366779440	ATTENTIVE	60.449	-146.851	N	14.335	6	150	21	24	27	29	Both	Neither	17	18	21	21	Both	Both	15	15	18	18	Both	Both
2012 10 12	366779440	ATTENTIVE	60.5079	-146.947	N	14.335	6	150	22	24	27	29	Both	Neither	17	18	21	21	Both	Both	15	15	18	18	Both	Both
2012 10 19	366779440	ATTENTIVE	60.3076	-147.013	N	14.335	6	150	21	24	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 10 25	366779440	ATTENTIVE	61.0908	-146.37	N	14.335	6	150	24	27	30	33	Both	Neither	20	20	24	24	Both	Both	18	18	22	22	Both	Both
2012 11 07	366779440	ATTENTIVE	60.3438	-146.556	N	14.335	6	150	22	24	27	29	Both	Neither	18	18	21	21	Both	Both	15	15	19	19	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 11 14	366779440	ATTENTIVE	61.1136	-146.295	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 11 21	366779440	ATTENTIVE	61.1143	-146.295	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 11 28	366779440	ATTENTIVE	61.1215	-146.308	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 12 05	366779440	ATTENTIVE	61.1215	-146.308	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 12 12	366779440	ATTENTIVE	60.9481	-146.813	N	14.335	6	150	23	26	29	31	Both	Neither	19	19	23	23	Both	Both	17	17	21	21	Both	Both
2012 12 19	366779440	ATTENTIVE	61.1215	-146.309	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 12 26	366779440	ATTENTIVE	61.1217	-146.343	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 01 04	366779430	AWARE	60.3446	-146.558	N	14.335	6	150	22	24	27	29	Both	Neither	18	18	21	21	Both	Both	15	15	19	19	Both	Both
2012 01 04	366779430	AWARE	60.3446	-146.558	N	14.335	6	150	22	24	27	29	Both	Neither	18	18	21	21	Both	Both	15	15	19	19	Both	Both
2012 01 18	366779430	AWARE	61.0375	-146.696	N	14.335	6	150	24	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 01 25	366779430	AWARE	60.3291	-146.604	N	14.335	6	150	22	24	27	29	Both	Neither	17	18	21	21	Both	Both	15	15	18	18	Both	Both
2012 02 01	366779430	AWARE	60.3439	-146.558	N	14.335	6	150	22	24	27	29	Both	Neither	18	18	21	21	Both	Both	15	15	19	19	Both	Both
2012 02 08	366779430	AWARE	61.1217	-146.343	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 02 15	366779430	AWARE	60.3393	-146.574	N	14.335	6	150	22	24	27	29	Both	Neither	18	18	21	21	Both	Both	15	15	19	19	Both	Both
2012 02 22	366779430	AWARE	60.4154	-147.015	N	14.335	6	150	21	24	26	29	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 02 29	366779430	AWARE	61.0893	-146.394	N	14.335	6	150	24	27	30	32	Both	Neither	20	20	24	24	Both	Both	18	18	22	22	Both	Both
2012 03 07	366779430	AWARE	60.3384	-146.573	N	14.335	6	150	22	24	27	29	Both	Neither	18	18	21	21	Both	Both	15	15	19	19	Both	Both
2012 03 21	366779430	AWARE	61.1217	-146.343	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 03 28	366779430	AWARE	61.0165	-146.726	N	14.335	6	150	24	26	29	32	Both	Neither	20	20	23	24	Both	Both	17	17	21	21	Both	Both
2012 04 04	366779430	AWARE	61.1037	-146.278	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 04 18	366779430	AWARE	61.1041	-146.273	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 04 25	366779430	AWARE	61.1235	-146.358	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 05 02	366779430	AWARE	60.2183	-146.657	N	14.335	6	150	21	24	26	29	Both	Neither	17	17	20	21	Both	Both	15	15	18	18	Both	Both
2012 05 16	366779430	AWARE	61.1218	-146.342	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 05 23	366779430	AWARE	61.1142	-146.29	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 05 30	366779430	AWARE	60.344	-146.559	N	14.335	6	150	22	24	27	29	Both	Neither	18	18	21	21	Both	Both	15	15	19	19	Both	Both
2012 06 06	366779430	AWARE	61.1215	-146.308	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 06 13	366779430	AWARE	61.0871	-146.426	N	14.335	6	150	24	27	30	32	Both	Neither	20	20	24	24	Both	Both	18	18	22	22	Both	Both
2012 06 20	366779430	AWARE	61.111	-146.28	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 06 27	366779430	AWARE	61.0961	-146.594	N	14.335	6	150	24	27	30	32	Both	Neither	20	20	24	24	Both	Both	18	18	22	22	Both	Both
2012 07 11	366779430	AWARE	61.1214	-146.345	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 07 18	366779430	AWARE	60.6003	-146.865	N	14.335	6	150	22	25	27	30	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 08 01	366779430	AWARE	61.122	-146.343	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 08 08	366779430	AWARE	60.2073	-146.634	N	14.335	6	150	21	24	26	29	Both	Neither	17	17	20	21	Both	Both	15	15	18	18	Both	Both
2012 08 15	366779430	AWARE	60.3424	-146.593	N	14.335	6	150	22	24	27	29	Both	Neither	17	18	21	21	Both	Both	15	15	18	18	Both	Both
2012 08 22	366779430	AWARE	60.5563	-146.958	N	14.335	6	150	22	24	27	29	Both	Neither	18	18	21	21	Both	Both	15	15	19	19	Both	Both
2012 08 29	366779430	AWARE	60.3438	-146.555	N	14.335	6	150	22	24	27	29	Both	Neither	18	18	21	21	Both	Both	15	15	19	19	Both	Both
2012 09 12	366779430	AWARE	60.462	-146.923	N	14.335	6	150	21	24	26	29	Both	Neither	17	17	21	21	Both	Both	15	15	18	18	Both	Both
2012 09 19	366779430	AWARE	61.1103	-146.282	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 09 26	366779430	AWARE	61.1219	-146.343	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 10 05	366779430	AWARE	61.1149	-146.29	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 10 12	366779430	AWARE	60.5095	-146.941	N	14.335	6	150	22	24	27	29	Both	Neither	17	18	21	21	Both	Both	15	15	18	18	Both	Both
2012 10 19	366779430	AWARE	61.1103	-146.282	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 10 25	366779430	AWARE	60.3053	-146.834	N	14.335	6	150	21	24	26	29	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 11 07	366779430	AWARE	61.1146	-146.295	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 11 14	366779430	AWARE	61.1028	-146.568	N	14.335	6	150	24	27	30	32	Both	Neither	20	20	24	24	Both	Both	18	18	22	22	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 11 21	366779430	AWARE	61.1113	-146.286	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 12 05	366779430	AWARE	61.1112	-146.286	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 12 12	366779430	AWARE	61.0942	-146.41	N	14.335	6	150	24	27	30	32	Both	Neither	20	20	24	24	Both	Both	18	18	22	22	Both	Both
2012 12 19	366779430	AWARE	60.9663	-146.784	N	14.335	6	150	23	26	29	31	Both	Neither	19	19	23	23	Both	Both	17	17	21	21	Both	Both
2012 12 26	366779430	AWARE	61.1219	-146.343	N	14.335	6	150	24	27	30	33	Both	Neither	20	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 08 15	369890000	USCG BERTHOLF	60.1187	-149.427	Y	28	4	150	14	15	22	24	Both	Neither	12	12	19	19	Both	Both	12	12	19	20	Both	Both
2012 08 22	369890000	USCG BERTHOLF	57.7298	-152.516	Y	28	3	150	13	14	19	21	Both	Neither	10	10	16	16	Both	Both	10	11	16	16	Both	Both
2012 02 29	367278000	USCG MUNRO	58.0524	-151.723	Y	27	4	150	12	13	17	18	Both	Neither	9	9	13	13	Both	Both	9	9	14	14	Both	Both
2012 02 29	367278000	USCG MUNRO	58.0524	-151.723	Y	27	4	150	12	13	17	18	Both	Neither	9	9	13	13	Both	Both	9	9	14	14	Both	Both
2012 06 06	367278000	USCG MUNRO	57.7296	-152.516	Y	27	3	150	13	14	19	21	Both	Neither	10	10	16	16	Both	Both	11	11	17	17	Both	Both
2012 06 06	367278000	USCG MUNRO	57.7296	-152.516	Y	27	3	150	13	14	19	21	Both	Neither	10	10	16	16	Both	Both	11	11	17	17	Both	Both
2012 12 05	367278000	USCG MUNRO	57.7298	-152.516	Y	27	3	150	13	14	19	21	Both	Neither	10	10	16	16	Both	Both	11	11	17	17	Both	Both
2012 12 12	367278000	USCG MUNRO	57.7298	-152.516	Y	27	3	150	13	14	19	21	Both	Neither	10	10	16	16	Both	Both	11	11	17	17	Both	Both
2012 01 04	366779420	ALERT	61.1028	-146.278	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 01 04	366779420	ALERT	61.1028	-146.278	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 01 18	366779420	ALERT	61.1036	-146.278	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 01 25	366779420	ALERT	60.3297	-146.605	N	15	6	110	21	23	25	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 02 01	366779420	ALERT	61.1217	-146.344	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 02 08	366779420	ALERT	60.597	-146.969	N	15	6	110	21	24	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 02 15	366779420	ALERT	60.9598	-146.789	N	15	6	110	22	25	28	30	Both	Neither	18	19	22	22	Both	Both	16	16	20	20	Both	Both
2012 02 22	366779420	ALERT	60.3383	-146.574	N	15	6	110	21	23	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 02 29	366779420	ALERT	60.3384	-146.575	N	15	6	110	21	23	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 03 07	366779420	ALERT	61.1216	-146.343	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 03 14	366779420	ALERT	61.1217	-146.344	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 03 21	366779420	ALERT	61.1217	-146.308	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 03 28	366779420	ALERT	61.1134	-146.291	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 04 04	366779420	ALERT	61.1216	-146.344	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 04 18	366779420	ALERT	60.344	-146.559	N	15	6	110	21	23	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 04 25	366779420	ALERT	61.1217	-146.344	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 05 02	366779420	ALERT	61.1101	-146.282	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 05 16	366779420	ALERT	60.5867	-146.906	N	15	6	110	21	24	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 05 23	366779420	ALERT	60.3423	-146.558	N	15	6	110	21	23	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 05 30	366779420	ALERT	61.1144	-146.29	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 06 06	366779420	ALERT	61.1216	-146.343	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 06 13	366779420	ALERT	61.1103	-146.282	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 06 20	366779420	ALERT	61.1216	-146.343	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 06 27	366779420	ALERT	60.9561	-146.788	N	15	6	110	22	25	28	30	Both	Neither	18	19	22	22	Both	Both	16	16	20	20	Both	Both
2012 07 11	366779420	ALERT	61.0908	-146.406	N	15	6	110	23	26	29	31	Both	Neither	19	20	23	23	Both	Both	17	17	21	21	Both	Both
2012 07 18	366779420	ALERT	61.0875	-146.424	N	15	6	110	23	26	29	31	Both	Neither	19	19	23	23	Both	Both	17	17	21	21	Both	Both
2012 07 25	366779420	ALERT	61.1216	-146.343	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 08 01	366779420	ALERT	61.1214	-146.308	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 08 08	366779420	ALERT	61.1102	-146.282	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 08 15	366779420	ALERT	61.1214	-146.344	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 08 22	366779420	ALERT	61.0654	-146.668	N	15	6	110	23	26	28	31	Both	Neither	19	19	23	23	Both	Both	17	17	20	20	Both	Both
2012 08 29	366779420	ALERT	60.9228	-146.826	N	15	6	110	22	25	27	30	Both	Neither	18	18	22	22	Both	Both	16	16	20	20	Both	Both
2012 09 05	366779420	ALERT	60.3482	-146.546	N	15	6	110	21	24	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 09 12	366779420	ALERT	60.3437	-146.558	N	15	6	110	21	23	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 09 19	366779420	ALERT	61.089	-146.393	N	15	6	110	23	26	29	31	Both	Neither	19	20	23	23	Both	Both	17	17	21	21	Both	Both
2012 09 26	366779420	ALERT	61.114	-146.292	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 10 05	366779420	ALERT	60.3482	-146.546	N	15	6	110	21	24	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 10 12	366779420	ALERT	60.3438	-146.558	N	15	6	110	21	23	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 10 19	366779420	ALERT	61.089	-146.393	N	15	6	110	23	26	29	31	Both	Neither	19	20	23	23	Both	Both	17	17	21	21	Both	Both
2012 12 26	366779420	ALERT	61.122	-146.343	N	15	6	110	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 01 04	366888840	SEA VOYAGER	61.1218	-146.344	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 01 04	366888840	SEA VOYAGER	61.1218	-146.344	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 01 18	366888840	SEA VOYAGER	60.3434	-146.557	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 01 25	366888840	SEA VOYAGER	60.3438	-146.558	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 02 01	366888840	SEA VOYAGER	61.1215	-146.307	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 02 08	366888840	SEA VOYAGER	60.6437	-147.454	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 03 07	366888840	SEA VOYAGER	61.1218	-146.344	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 03 21	366888840	SEA VOYAGER	60.3383	-146.573	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 03 28	366888840	SEA VOYAGER	60.3436	-146.558	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 04 04	366888840	SEA VOYAGER	61.111	-146.286	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 04 18	366888840	SEA VOYAGER	61.1219	-146.341	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 04 25	366888840	SEA VOYAGER	60.3444	-146.554	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 05 02	366888840	SEA VOYAGER	61.1221	-146.343	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 05 16	366888840	SEA VOYAGER	60.339	-146.574	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 05 23	366888840	SEA VOYAGER	60.3434	-146.555	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 05 30	366888840	SEA VOYAGER	60.3436	-146.558	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 06 06	366888840	SEA VOYAGER	60.3388	-146.573	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 06 13	366888840	SEA VOYAGER	60.339	-146.574	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 06 20	366888840	SEA VOYAGER	60.3445	-146.555	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 06 27	366888840	SEA VOYAGER	60.3445	-146.555	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 07 11	366888840	SEA VOYAGER	60.7115	-147.018	N	14.022	6	109	23	25	28	30	Both	Neither	18	19	22	22	Both	Both	16	16	20	20	Both	Both
2012 07 18	366888840	SEA VOYAGER	60.3391	-146.571	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 08 01	366888840	SEA VOYAGER	61.1216	-146.307	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 08 08	366888840	SEA VOYAGER	61.1219	-146.343	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 08 15	366888840	SEA VOYAGER	61.1215	-146.307	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 08 22	366888840	SEA VOYAGER	61.1064	-146.433	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 08 29	366888840	SEA VOYAGER	61.0935	-146.358	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 09 05	366888840	SEA VOYAGER	61.1144	-146.29	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 09 12	366888840	SEA VOYAGER	61.1145	-146.291	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 09 19	366888840	SEA VOYAGER	60.5388	-147.768	N	14.022	6	109	21	24	26	29	Both	Neither	17	17	20	21	Both	Both	15	15	18	18	Both	Both
2012 09 26	366888840	SEA VOYAGER	60.4891	-147.857	N	14.022	6	109	21	24	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 10 05	366888840	SEA VOYAGER	61.1146	-146.29	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 10 12	366888840	SEA VOYAGER	61.1147	-146.291	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 10 19	366888840	SEA VOYAGER	60.5401	-147.766	N	14.022	6	109	21	24	26	29	Both	Neither	17	17	20	21	Both	Both	15	15	18	18	Both	Both
2012 10 25	366888840	SEA VOYAGER	60.3439	-146.558	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 11 07	366888840	SEA VOYAGER	61.1218	-146.344	N	14.022	6	109	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 11 14	366888840	SEA VOYAGER	60.3432	-146.557	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 11 21	366888840	SEA VOYAGER	60.3382	-146.575	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 11 28	366888840	SEA VOYAGER	60.3434	-146.557	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 12 05	366888840	SEA VOYAGER	60.3451	-146.557	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 12 12	366888840	SEA VOYAGER	60.3445	-146.558	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 12 19	366888840	SEA VOYAGER	60.3434	-146.558	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 12 26	366888840	SEA VOYAGER	60.3386	-146.576	N	14.022	6	109	22	25	27	30	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 01 04	366760680	NANUQ (PWS)	61.1031	-146.279	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 01 04	366760680	NANUQ (PWS)	61.1031	-146.279	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 01 18	366760680	NANUQ (PWS)	61.1145	-146.295	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 01 25	366760680	NANUQ (PWS)	61.1135	-146.295	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 02 01	366760680	NANUQ (PWS)	61.1108	-146.285	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 02 08	366760680	NANUQ (PWS)	61.1132	-146.294	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 02 15	366760680	NANUQ (PWS)	61.0318	-146.708	N	15	6	96	23	25	28	31	Both	Neither	19	19	22	23	Both	Both	17	17	20	20	Both	Both
2012 02 22	366760680	NANUQ (PWS)	61.1216	-146.308	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 02 29	366760680	NANUQ (PWS)	61.0898	-146.398	N	15	6	96	23	26	29	31	Both	Neither	19	20	23	23	Both	Both	17	17	21	21	Both	Both
2012 03 07	366760680	NANUQ (PWS)	61.1197	-146.342	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 03 14	366760680	NANUQ (PWS)	61.122	-146.343	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 03 21	366760680	NANUQ (PWS)	61.0228	-146.726	N	15	6	96	23	25	28	31	Both	Neither	19	19	22	23	Both	Both	17	17	20	20	Both	Both
2012 04 04	366760680	NANUQ (PWS)	61.1218	-146.344	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 04 18	366760680	NANUQ (PWS)	61.1125	-146.314	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 04 25	366760680	NANUQ (PWS)	61.1218	-146.344	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 05 02	366760680	NANUQ (PWS)	61.1134	-146.29	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 05 16	366760680	NANUQ (PWS)	61.114	-146.29	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 05 23	366760680	NANUQ (PWS)	61.122	-146.343	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 05 30	366760680	NANUQ (PWS)	61.122	-146.343	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 06 06	366760680	NANUQ (PWS)	60.7041	-146.944	N	15	6	96	21	24	26	29	Both	Neither	17	18	21	21	Both	Both	15	15	19	19	Both	Both
2012 06 13	366760680	NANUQ (PWS)	61.1215	-146.345	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 06 20	366760680	NANUQ (PWS)	61.088	-146.424	N	15	6	96	23	26	29	31	Both	Neither	19	19	23	23	Both	Both	17	17	21	21	Both	Both
2012 06 27	366760680	NANUQ (PWS)	61.0958	-146.597	N	15	6	96	23	26	28	31	Both	Neither	19	19	23	23	Both	Both	17	17	21	21	Both	Both
2012 07 11	366760680	NANUQ (PWS)	61.0903	-146.401	N	15	6	96	23	26	29	31	Both	Neither	19	20	23	23	Both	Both	17	17	21	21	Both	Both
2012 07 18	366760680	NANUQ (PWS)	61.1138	-146.289	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 07 25	366760680	NANUQ (PWS)	61.114	-146.289	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 08 01	366760680	NANUQ (PWS)	61.1137	-146.29	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 08 08	366760680	NANUQ (PWS)	61.1134	-146.29	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 08 15	366760680	NANUQ (PWS)	61.1219	-146.343	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 08 22	366760680	NANUQ (PWS)	61.1077	-146.451	N	15	6	96	23	26	29	31	Both	Neither	19	20	23	23	Both	Both	17	17	21	21	Both	Both
2012 09 12	366760680	NANUQ (PWS)	61.1219	-146.343	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 09 19	366760680	NANUQ (PWS)	61.0897	-146.398	N	15	6	96	23	26	29	31	Both	Neither	19	20	23	23	Both	Both	17	17	21	21	Both	Both
2012 09 26	366760680	NANUQ (PWS)	61.1106	-146.282	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 10 05	366760680	NANUQ (PWS)	61.1147	-146.292	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 10 12	366760680	NANUQ (PWS)	61.1219	-146.343	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 10 19	366760680	NANUQ (PWS)	61.0897	-146.398	N	15	6	96	23	26	29	31	Both	Neither	19	20	23	23	Both	Both	17	17	21	21	Both	Both
2012 10 25	366760680	NANUQ (PWS)	61.122	-146.343	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 11 07	366760680	NANUQ (PWS)	61.1146	-146.294	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 11 14	366760680	NANUQ (PWS)	61.1035	-146.564	N	15	6	96	23	26	28	31	Both	Neither	19	19	23	23	Both	Both	17	17	21	21	Both	Both
2012 11 21	366760680	NANUQ (PWS)	61.0886	-146.382	N	15	6	96	23	26	29	31	Both	Neither	19	20	23	23	Both	Both	17	17	21	21	Both	Both
2012 11 28	366760680	NANUQ (PWS)	61.1218	-146.344	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 12 05	366760680	NANUQ (PWS)	61.1218	-146.344	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 12 12	366760680	NANUQ (PWS)	61.1118	-146.307	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 12 26	366760680	NANUQ (PWS)	61.1218	-146.344	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 01 04	366760670	TANERLIQ	61.1218	-146.342	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 01 04	366760670	TANERLIQ	61.1218	-146.342	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 01 18	366760670	TANERLIQ	60.379	-146.829	N	15	6	96	20	23	25	28	Both	Neither	17	17	20	20	Both	Both	15	15	17	17	Both	Both
2012 01 25	366760670	TANERLIQ	60.9817	-146.788	N	15	6	96	22	25	28	30	Both	Neither	19	19	22	22	Both	Both	17	17	20	20	Both	Both
2012 02 01	366760670	TANERLIQ	61.1218	-146.344	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 02 08	366760670	TANERLIQ	60.5971	-146.977	N	15	6	96	21	24	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 02 15	366760670	TANERLIQ	61.099	-146.429	N	15	6	96	23	26	29	31	Both	Neither	19	20	23	23	Both	Both	17	17	21	21	Both	Both
2012 02 22	366760670	TANERLIQ	60.6837	-146.943	N	15	6	96	21	24	26	29	Both	Neither	17	18	21	21	Both	Both	15	15	18	18	Both	Both
2012 02 29	366760670	TANERLIQ	61.0801	-146.64	N	15	6	96	23	26	28	31	Both	Neither	19	19	23	23	Both	Both	17	17	21	21	Both	Both
2012 03 07	366760670	TANERLIQ	60.8003	-147.042	N	15	6	96	21	24	27	29	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 03 21	366760670	TANERLIQ	61.1218	-146.344	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 03 28	366760670	TANERLIQ	61.1137	-146.29	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 04 04	366760670	TANERLIQ	61.1219	-146.343	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 04 18	366760670	TANERLIQ	61.1218	-146.344	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 04 25	366760670	TANERLIQ	61.1217	-146.343	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 05 02	366760670	TANERLIQ	60.2098	-146.672	N	15	6	96	20	23	25	28	Both	Neither	16	17	19	20	Both	Both	14	14	17	17	Both	Both
2012 05 16	366760670	TANERLIQ	61.1107	-146.281	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 05 23	366760670	TANERLIQ	60.3382	-146.575	N	15	6	96	21	23	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 05 30	366760670	TANERLIQ	60.3383	-146.576	N	15	6	96	21	23	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 06 06	366760670	TANERLIQ	61.122	-146.343	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 06 13	366760670	TANERLIQ	61.1108	-146.282	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 06 20	366760670	TANERLIQ	61.1214	-146.345	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 06 27	366760670	TANERLIQ	61.0461	-146.691	N	15	6	96	23	25	28	31	Both	Neither	19	19	23	23	Both	Both	17	17	20	20	Both	Both
2012 07 11	366760670	TANERLIQ	61.122	-146.343	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 07 18	366760670	TANERLIQ	61.1214	-146.345	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 07 25	366760670	TANERLIQ	61.0875	-146.425	N	15	6	96	23	26	29	31	Both	Neither	19	19	23	23	Both	Both	17	17	21	21	Both	Both
2012 08 01	366760670	TANERLIQ	61.1132	-146.29	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 08 08	366760670	TANERLIQ	60.21	-146.673	N	15	6	96	20	23	25	28	Both	Neither	16	17	19	20	Both	Both	14	14	17	17	Both	Both
2012 08 15	366760670	TANERLIQ	60.6489	-146.602	N	15	6	96	21	24	27	29	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 08 22	366760670	TANERLIQ	60.5555	-146.965	N	15	6	96	21	23	26	28	Both	Neither	17	17	20	20	Both	Both	15	15	18	18	Both	Both
2012 08 29	366760670	TANERLIQ	61.1216	-146.344	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 09 05	366760670	TANERLIQ	60.7311	-146.964	N	15	6	96	21	24	26	29	Both	Neither	17	18	21	21	Both	Both	15	15	19	19	Both	Both
2012 09 12	366760670	TANERLIQ	61.122	-146.343	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 09 19	366760670	TANERLIQ	61.1218	-146.344	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 09 26	366760670	TANERLIQ	61.1219	-146.343	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 10 05	366760670	TANERLIQ	60.7643	-146.97	N	15	6	96	21	24	26	29	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 10 12	366760670	TANERLIQ	61.122	-146.343	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 10 19	366760670	TANERLIQ	61.1218	-146.344	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 10 25	366760670	TANERLIQ	60.3108	-146.848	N	15	6	96	20	23	25	28	Both	Neither	16	16	19	20	Both	Both	14	14	17	17	Both	Both
2012 11 07	366760670	TANERLIQ	61.1218	-146.342	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 11 21	366760670	TANERLIQ	61.1218	-146.344	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 11 28	366760670	TANERLIQ	61.1217	-146.344	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 12 12	366760670	TANERLIQ	61.1215	-146.309	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 12 19	366760670	TANERLIQ	61.1148	-146.294	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 12 26	366760670	TANERLIQ	61.1217	-146.344	N	15	6	96	23	26	29	32	Both	Neither	20	20	23	24	Both	Both	18	18	21	21	Both	Both
2012 01 04	367328780	VIGILANT	60.6724	-151.411	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 01 04	367328780	VIGILANT	60.6724	-151.411	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 01 25	367328780	VIGILANT	60.6839	-151.4	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 02 01	367328780	VIGILANT	60.6839	-151.406	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 02 08	367328780	VIGILANT	59.6063	-151.415	N	14	2	91	7	11	9	12	Both	Neither	3	3	3	3	Both	Both	5	5	5	6	Both	Both
2012 02 22	367328780	VIGILANT	59.6027	-151.41	N	14	2	91	7	11	9	12	Both	Neither	3	3	3	3	Both	Both	5	5	5	6	Both	Both
2012 02 29	367328780	VIGILANT	60.683	-151.403	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 03 07	367328780	VIGILANT	60.6122	-151.431	N	14	2	91	3	4	4	7	Both	Neither	7	7	7	8	Both	Both	8	10	8	10	Both	Both
2012 03 14	367328780	VIGILANT	60.683	-151.403	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 03 21	367328780	VIGILANT	60.6834	-151.403	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 03 28	367328780	VIGILANT	60.6697	-151.405	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 04 04	367328780	VIGILANT	60.6868	-151.41	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 04 18	367328780	VIGILANT	60.6827	-151.405	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 04 25	367328780	VIGILANT	60.9352	-151.154	N	14	1	91	2	2	3	3	Both	Neither	8	9	11	11	Both	Both	10	11	13	13	Both	Both
2012 05 02	367328780	VIGILANT	60.6603	-151.404	N	14	2	91	3	4	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 05 16	367328780	VIGILANT	60.679	-151.404	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 05 23	367328780	VIGILANT	60.6869	-151.41	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 05 30	367328780	VIGILANT	60.6814	-151.404	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 06 06	367328780	VIGILANT	60.7609	-151.3	N	14	1	91	2	3	3	5	Both	Neither	8	8	8	9	Both	Both	9	10	10	11	Both	Both
2012 06 13	367328780	VIGILANT	60.6725	-151.401	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 06 20	367328780	VIGILANT	60.6816	-151.404	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 06 27	367328780	VIGILANT	60.7607	-151.3	N	14	1	91	2	3	3	5	Both	Neither	8	8	8	9	Both	Both	9	10	10	11	Both	Both
2012 07 11	367328780	VIGILANT	60.6851	-151.406	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 07 25	367328780	VIGILANT	60.7617	-151.295	N	14	1	91	2	3	3	5	Both	Neither	8	8	8	9	Both	Both	9	10	10	11	Both	Both
2012 08 01	367328780	VIGILANT	60.6807	-151.404	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 08 08	367328780	VIGILANT	60.6104	-151.384	N	14	2	91	3	4	4	7	Both	Neither	7	7	7	8	Both	Both	8	10	9	10	Both	Both
2012 08 15	367328780	VIGILANT	60.7647	-151.305	N	14	1	91	2	3	3	5	Both	Neither	8	8	8	9	Both	Both	9	10	10	11	Both	Both
2012 08 22	367328780	VIGILANT	59.6062	-151.415	N	14	2	91	7	11	9	12	Both	Neither	3	3	3	3	Both	Both	5	5	5	6	Both	Both
2012 08 29	367328780	VIGILANT	60.7643	-151.305	N	14	1	91	2	3	3	5	Both	Neither	8	8	8	9	Both	Both	9	10	10	11	Both	Both
2012 09 05	367328780	VIGILANT	59.6063	-151.415	N	14	2	91	7	11	9	12	Both	Neither	3	3	3	3	Both	Both	5	5	5	6	Both	Both
2012 09 12	367328780	VIGILANT	59.6062	-151.415	N	14	2	91	7	11	9	12	Both	Neither	3	3	3	3	Both	Both	5	5	5	6	Both	Both
2012 09 19	367328780	VIGILANT	59.6063	-151.415	N	14	2	91	7	11	9	12	Both	Neither	3	3	3	3	Both	Both	5	5	5	6	Both	Both
2012 09 26	367328780	VIGILANT	60.6742	-151.403	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 10 05	367328780	VIGILANT	59.6062	-151.415	N	14	2	91	7	11	9	12	Both	Neither	3	3	3	3	Both	Both	5	5	5	6	Both	Both
2012 10 12	367328780	VIGILANT	59.6063	-151.415	N	14	2	91	7	11	9	12	Both	Neither	3	3	3	3	Both	Both	5	5	5	6	Both	Both
2012 10 19	367328780	VIGILANT	59.6063	-151.415	N	14	2	91	7	11	9	12	Both	Neither	3	3	3	3	Both	Both	5	5	5	6	Both	Both
2012 10 25	367328780	VIGILANT	60.5488	-152.138	N	14	2	91	4	5	5	8	Both	Neither	6	7	7	7	Both	Both	8	9	8	10	Both	Both
2012 11 07	367328780	VIGILANT	60.6793	-151.402	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 11 14	367328780	VIGILANT	60.6811	-151.403	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 11 21	367328780	VIGILANT	59.6561	-151.818	N	14	2	91	7	10	8	12	Both	Neither	3	3	3	3	Both	Both	4	5	4	5	Both	Both
2012 12 05	367328780	VIGILANT	60.6823	-151.404	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 12 12	367328780	VIGILANT	60.6801	-151.402	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 12 19	367328780	VIGILANT	60.6845	-151.412	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 12 26	367328780	VIGILANT	60.6704	-151.399	N	14	2	91	3	3	4	6	Both	Neither	7	8	7	8	Both	Both	9	10	9	10	Both	Both
2012 05 16	366284000	NANUQ	61.1217	-146.309	Y	15	6	87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 05 23	366284000	NANUQ	61.1217	-146.31	Y	15	6	87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 30	366284000	NANUQ	60.164	-146.632	Y	15	6	87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 06	366284000	NANUQ	61.1127	-146.507	Y	15	6	87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 13	366284000	NANUQ	61.1217	-146.31	Y	15	6	87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 20	366284000	NANUQ	61.1217	-146.311	Y	15	6	87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 27	366284000	NANUQ	61.0928	-146.287	Y	15	6	87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 11 28	366284000	NANUQ	60.1185	-149.429	Y	15	4	87	23	26	38	42	Both	Neither	18	19	32	32	Both	Both	19	20	33	33	Both	Both
2012 12 05	366284000	NANUQ	60.1185	-149.429	Y	15	4	87	23	26	38	42	Both	Neither	18	19	32	32	Both	Both	19	20	33	33	Both	Both
2012 12 12	366284000	NANUQ	60.1185	-149.429	Y	15	4	87	23	26	38	42	Both	Neither	18	19	32	32	Both	Both	19	20	33	33	Both	Both
2012 12 19	366284000	NANUQ	60.1183	-149.429	Y	15	4	87	23	26	38	42	Both	Neither	18	19	32	32	Both	Both	19	20	33	33	Both	Both
2012 12 26	366284000	NANUQ	60.1183	-149.428	Y	15	4	87	23	26	38	42	Both	Neither	18	19	32	32	Both	Both	19	20	33	33	Both	Both
2012 02 15	366833610	PHYLLIS DUNLAP	59.2112	-150.148	Y	9	4	82	27	29	41	45	Both	Neither	18	18	30	31	Both	Both	19	20	31	33	Both	Both
2012 03 28	366833610	PHYLLIS DUNLAP	56.8969	-154.249	Y	9	3	82	42	44	72	76	Both	Neither	33	34	61	62	Both	Both	34	35	62	64	Both	Both
2012 04 04	338945000	USCG ALEX HALEY	57.7303	-152.515	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 04 18	338945000	USCG ALEX HALEY	57.7303	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 04 25	338945000	USCG ALEX HALEY	57.7303	-152.515	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 05 02	338945000	USCG ALEX HALEY	57.7303	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 05 16	338945000	USCG ALEX HALEY	57.7303	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 05 23	338945000	USCG ALEX HALEY	57.7303	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 05 30	338945000	USCG ALEX HALEY	57.7304	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 06 06	338945000	USCG ALEX HALEY	57.7304	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 06 13	338945000	USCG ALEX HALEY	57.7306	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 06 20	338945000	USCG ALEX HALEY	57.7305	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 07 11	338945000	USCG ALEX HALEY	57.7306	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 08 08	338945000	USCG ALEX HALEY	57.7303	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 09 26	338945000	USCG ALEX HALEY	57.7305	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 10 25	338945000	USCG ALEX HALEY	57.7305	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 11 07	338945000	USCG ALEX HALEY	57.7306	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 11 14	338945000	USCG ALEX HALEY	57.7306	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 11 21	338945000	USCG ALEX HALEY	57.7306	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 11 28	338945000	USCG ALEX HALEY	57.5937	-151.881	Y	18	4	82	17	20	27	31	Both	Neither	14	14	22	23	Both	Both	14	15	23	24	Both	Both
2012 12 05	338945000	USCG ALEX HALEY	57.7305	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 12 26	338945000	USCG ALEX HALEY	57.7305	-152.514	Y	18	3	82	17	20	27	31	Both	Neither	13	14	22	22	Both	Both	14	14	23	23	Both	Both
2012 02 01	367357890	ALASKA TITAN	60.7776	-148.673	Y	11	7	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 29	367357890	ALASKA TITAN	60.7776	-148.673	Y	11	7	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 28	367357890	ALASKA TITAN	59.9901	-145.763	Y	11	5	80	41	44	74	75	Both	Neither	34	35	64	65	Both	Both	35	36	65	67	Both	Both
2012 07 25	367357890	ALASKA TITAN	60.7584	-148.111	Y	11	7	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 15	367357890	ALASKA TITAN	60.7725	-148.206	Y	11	7	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 01 25	366797540	ENDURANCE	61.1218	-146.308	N	13.614	6	80	26	28	32	34	Both	Neither	21	22	26	26	Both	Both	19	19	23	23	Both	Both
2012 02 01	366797540	ENDURANCE	61.1217	-146.342	N	13.614	6	80	26	28	32	34	Both	Neither	21	22	25	26	Both	Both	19	19	23	23	Both	Both
2012 02 08	366797540	ENDURANCE	60.3376	-146.574	N	13.614	6	80	23	25	28	30	Both	Neither	18	19	22	22	Both	Both	16	16	19	19	Both	Both
2012 02 22	366797540	ENDURANCE	60.6433	-147.452	N	13.614	6	80	23	25	28	30	Both	Neither	18	18	22	22	Both	Both	16	16	19	19	Both	Both
2012 02 29	366797540	ENDURANCE	60.6438	-147.451	N	13.614	6	80	23	25	28	30	Both	Neither	18	18	22	22	Both	Both	16	16	19	19	Both	Both
2012 03 07	366797540	ENDURANCE	60.6449	-147.45	N	13.614	6	80	23	25	28	30	Both	Neither	18	18	22	22	Both	Both	16	16	19	19	Both	Both
2012 03 21	366797540	ENDURANCE	61.1218	-146.307	N	13.614	6	80	26	28	32	34	Both	Neither	21	22	26	26	Both	Both	19	19	23	23	Both	Both
2012 03 28	366797540	ENDURANCE	61.1217	-146.31	N	13.614	6	80	26	28	32	34	Both	Neither	21	22	26	26	Both	Both	19	19	23	23	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 04 04	366797540	ENDURANCE	57.7836	-152.427	N	13.614	3	80	15	18	19	21	Both	Neither	11	11	12	13	Both	Both	8	8	10	10	Both	Both
2012 04 18	366797540	ENDURANCE	60.1192	-149.427	N	13.614	4	80	18	20	22	24	Both	Neither	13	13	16	16	Both	Both	11	11	13	13	Both	Both
2012 06 06	366797540	ENDURANCE	60.6449	-147.451	N	13.614	6	80	23	25	28	30	Both	Neither	18	18	22	22	Both	Both	16	16	19	19	Both	Both
2012 06 27	366797540	ENDURANCE	60.8917	-147.547	N	13.614	6	80	24	26	29	31	Both	Neither	19	19	23	23	Both	Both	17	17	20	20	Both	Both
2012 07 25	366797540	ENDURANCE	61.0718	-146.66	N	13.614	6	80	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 06 13	367309260	SIRIUS	61.2355	-149.902	Y	13.614	1	80	7	9	13	17	Both	Neither	14	14	22	24	Both	Both	15	16	23	26	Both	Both
2012 01 04	366888040	BULWARK	61.1217	-146.344	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 01 04	366888040	BULWARK	61.1217	-146.344	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 01 18	366888040	BULWARK	61.1118	-146.286	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 01 25	366888040	BULWARK	60.6439	-147.452	N	14.022	6	75	22	25	27	30	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 02 01	366888040	BULWARK	61.1032	-146.278	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 02 08	366888040	BULWARK	61.0882	-146.426	N	14.022	6	75	25	27	31	33	Both	Neither	21	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 02 15	366888040	BULWARK	60.6443	-147.467	N	14.022	6	75	22	25	27	30	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 02 22	366888040	BULWARK	61.1217	-146.343	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 02 29	366888040	BULWARK	61.0895	-146.395	N	14.022	6	75	25	27	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 03 07	366888040	BULWARK	61.0907	-146.404	N	14.022	6	75	25	27	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 03 14	366888040	BULWARK	60.6255	-145.754	N	14.022	6	75	24	27	30	32	Both	Neither	20	20	24	24	Both	Both	18	18	22	22	Both	Both
2012 03 21	366888040	BULWARK	60.6439	-147.449	N	14.022	6	75	22	25	27	30	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 03 28	366888040	BULWARK	60.6438	-147.454	N	14.022	6	75	22	25	27	30	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 04 04	366888040	BULWARK	61.1217	-146.344	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 04 18	366888040	BULWARK	61.1217	-146.341	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 04 25	366888040	BULWARK	61.1146	-146.291	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 05 02	366888040	BULWARK	60.5581	-145.756	N	14.022	6	75	24	27	30	32	Both	Neither	20	20	24	24	Both	Both	18	18	21	21	Both	Both
2012 06 13	366888040	BULWARK	60.6923	-147.339	N	14.022	6	75	22	25	28	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 06 20	366888040	BULWARK	60.6737	-147.354	N	14.022	6	75	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 06 27	366888040	BULWARK	60.6731	-147.355	N	14.022	6	75	22	25	27	30	Both	Neither	18	18	21	22	Both	Both	16	16	19	19	Both	Both
2012 07 11	366888040	BULWARK	61.1137	-146.291	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 07 18	366888040	BULWARK	61.1136	-146.29	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 07 25	366888040	BULWARK	61.1137	-146.289	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 08 08	366888040	BULWARK	60.5581	-145.756	N	14.022	6	75	24	27	30	32	Both	Neither	20	20	24	24	Both	Both	18	18	21	21	Both	Both
2012 09 12	366888040	BULWARK	61.0885	-146.382	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 09 19	366888040	BULWARK	61.0449	-146.664	N	14.022	6	75	24	27	30	32	Both	Neither	20	20	24	24	Both	Both	18	18	22	22	Both	Both
2012 09 26	366888040	BULWARK	61.1219	-146.344	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 10 12	366888040	BULWARK	61.0884	-146.382	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 10 19	366888040	BULWARK	61.0449	-146.664	N	14.022	6	75	24	27	30	32	Both	Neither	20	20	24	24	Both	Both	18	18	22	22	Both	Both
2012 10 25	366888040	BULWARK	61.0457	-146.664	N	14.022	6	75	24	27	30	32	Both	Neither	20	20	24	24	Both	Both	18	18	22	22	Both	Both
2012 11 07	366888040	BULWARK	61.1149	-146.295	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 11 14	366888040	BULWARK	60.8892	-146.862	N	14.022	6	75	23	26	29	31	Both	Neither	19	19	23	23	Both	Both	17	17	21	21	Both	Both
2012 11 21	366888040	BULWARK	61.1217	-146.344	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 11 28	366888040	BULWARK	61.0884	-146.382	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 12 05	366888040	BULWARK	61.1217	-146.342	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 12 12	366888040	BULWARK	61.1133	-146.294	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 04 25	366887950	GUARDSMAN	61.1239	-146.362	Y	11	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 02	366887950	GUARDSMAN	61.1239	-146.362	Y	11	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 16	366887950	GUARDSMAN	61.1238	-146.362	Y	11	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 23	366887950	GUARDSMAN	61.1238	-146.362	Y	11	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 05 30	366887950	GUARDSMAN	61.1238	-146.362	Y	11	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 13	366887950	GUARDSMAN	61.1256	-146.466	Y	11	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 20	366887950	GUARDSMAN	61.1216	-146.308	Y	11	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 27	366887950	GUARDSMAN	61.1238	-146.362	Y	11	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 08	366887950	GUARDSMAN	61.1239	-146.362	Y	11	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 26	366887950	GUARDSMAN	60.1186	-149.427	Y	11	4	75	31	33	52	53	Both	Neither	24	24	42	43	Both	Both	24	25	43	45	Both	Both
2012 09 19	366770250	HUNTER	60.5889	-146.056	Y	14	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 26	366770250	HUNTER	60.6476	-145.655	Y	14	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 19	366770250	HUNTER	60.5886	-146.064	Y	14	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 11 21	366770250	HUNTER	60.8835	-146.934	Y	14	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 11 28	366770250	HUNTER	61.1217	-146.343	Y	14	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 12	366770250	HUNTER	61.1219	-146.344	Y	14	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 19	366770250	HUNTER	61.1108	-146.285	Y	14	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 26	366770250	HUNTER	61.1215	-146.308	Y	14	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 01 04	366766890	INVADER	61.0873	-146.428	N	14	6	75	25	27	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 01 04	366766890	INVADER	61.0873	-146.428	N	14	6	75	25	27	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 01 18	366766890	INVADER	61.1219	-146.344	N	14	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 01 25	366766890	INVADER	60.6431	-147.464	N	14	6	75	22	25	27	30	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 02 01	366766890	INVADER	61.0885	-146.382	N	14	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 02 08	366766890	INVADER	61.0886	-146.426	N	14	6	75	25	27	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 02 15	366766890	INVADER	61.1217	-146.344	N	14	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 02 22	366766890	INVADER	60.6428	-147.464	N	14	6	75	22	25	27	30	Both	Neither	18	18	21	21	Both	Both	16	16	19	19	Both	Both
2012 01 04	366888850	STALWART	61.0884	-146.381	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 01 04	366888850	STALWART	61.0884	-146.381	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 01 18	366888850	STALWART	61.0884	-146.381	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 01 25	366888850	STALWART	61.0884	-146.381	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 02 01	366888850	STALWART	61.0876	-146.428	N	14.022	6	75	25	27	31	33	Both	Neither	21	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 02 08	366888850	STALWART	61.1216	-146.343	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 02 15	366888850	STALWART	61.0884	-146.381	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 02 22	366888850	STALWART	61.0884	-146.381	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 02 29	366888850	STALWART	61.0884	-146.381	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 03 07	366888850	STALWART	61.0884	-146.381	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 03 14	366888850	STALWART	61.0884	-146.381	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 03 21	366888850	STALWART	61.0884	-146.381	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 04 04	366888850	STALWART	61.122	-146.343	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 04 18	366888850	STALWART	61.1044	-146.274	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 04 25	366888850	STALWART	61.0884	-146.382	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 05 02	366888850	STALWART	61.0884	-146.382	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 05 16	366888850	STALWART	61.1217	-146.343	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 05 23	366888850	STALWART	61.0884	-146.382	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 05 30	366888850	STALWART	61.1038	-146.273	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 06 06	366888850	STALWART	61.0884	-146.382	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 06 13	366888850	STALWART	61.0884	-146.381	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 06 20	366888850	STALWART	61.1138	-146.291	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 06 27	366888850	STALWART	61.094	-146.432	N	14.022	6	75	25	27	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 07 11	366888850	STALWART	61.0881	-146.424	N	14.022	6	75	25	27	31	33	Both	Neither	21	21	24	25	Both	Both	18	18	22	22	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 07 18	366888850	STALWART	61.0877	-146.423	N	14.022	6	75	25	27	31	33	Both	Neither	21	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 07 25	366888850	STALWART	61.0879	-146.424	N	14.022	6	75	25	27	31	33	Both	Neither	21	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 08 01	366888850	STALWART	61.087	-146.426	N	14.022	6	75	25	27	31	33	Both	Neither	21	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 08 08	366888850	STALWART	61.0884	-146.382	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 08 15	366888850	STALWART	61.0878	-146.424	N	14.022	6	75	25	27	31	33	Both	Neither	21	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 08 22	366888850	STALWART	61.1216	-146.343	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 08 29	366888850	STALWART	61.1215	-146.344	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 09 05	366888850	STALWART	61.1216	-146.344	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 09 12	366888850	STALWART	61.0872	-146.427	N	14.022	6	75	25	27	31	33	Both	Neither	21	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 09 19	366888850	STALWART	61.0884	-146.382	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 09 26	366888850	STALWART	60.8778	-146.915	N	14.022	6	75	23	26	29	31	Both	Neither	19	19	23	23	Both	Both	17	17	21	21	Both	Both
2012 10 05	366888850	STALWART	61.1216	-146.343	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 10 12	366888850	STALWART	61.0872	-146.427	N	14.022	6	75	25	27	31	33	Both	Neither	21	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 10 19	366888850	STALWART	61.0884	-146.382	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 10 25	366888850	STALWART	61.09	-146.385	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 11 07	366888850	STALWART	61.0884	-146.381	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 11 14	366888850	STALWART	61.088	-146.426	N	14.022	6	75	25	27	31	33	Both	Neither	21	21	24	25	Both	Both	18	18	22	22	Both	Both
2012 11 21	366888850	STALWART	61.0884	-146.381	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 11 28	366888850	STALWART	61.1218	-146.342	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 12 05	366888850	STALWART	61.0884	-146.381	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 12 12	366888850	STALWART	61.1217	-146.344	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 12 19	366888850	STALWART	61.0884	-146.381	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	18	18	22	22	Both	Both
2012 12 26	366888850	STALWART	61.1216	-146.343	N	14.022	6	75	25	28	31	33	Both	Neither	21	21	25	25	Both	Both	19	19	22	22	Both	Both
2012 02 29	366887190	WARRIOR	60.6429	-147.463	Y	14.022	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 07	366887190	WARRIOR	60.6439	-147.463	Y	14.022	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 14	366887190	WARRIOR	61.0879	-146.426	Y	14.022	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 21	366887190	WARRIOR	61.0946	-146.383	Y	14.022	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 28	366887190	WARRIOR	61.1218	-146.342	Y	14.022	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 04 04	366887190	WARRIOR	61.1041	-146.279	Y	14.022	6	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 04 25	366887190	WARRIOR	60.9349	-151.156	Y	14.022	1	75	6	7	10	17	Both	Neither	10	12	14	20	Both	Both	12	14	16	22	Both	Both
2012 11 28	366887190	WARRIOR	60.1185	-149.427	Y	14.022	4	75	24	28	41	44	Both	Neither	19	20	34	34	Both	Both	20	21	35	36	Both	Both
2012 12 05	366887190	WARRIOR	60.1186	-149.426	Y	14.022	4	75	24	28	41	44	Both	Neither	19	20	34	34	Both	Both	20	21	35	36	Both	Both
2012 12 12	366887190	WARRIOR	60.1185	-149.427	Y	14.022	4	75	24	28	41	44	Both	Neither	19	20	34	34	Both	Both	20	21	35	36	Both	Both
2012 12 19	366887190	WARRIOR	60.1187	-149.427	Y	14.022	4	75	24	28	41	44	Both	Neither	19	20	34	34	Both	Both	20	21	35	36	Both	Both
2012 04 25	369916000	USCG HICKORY	60.55	-151.628	Y	13.696	2	73	6	7	7	11	Both	Neither	10	11	10	12	Both	Both	11	13	11	14	Both	Both
2012 09 12	369916000	USCG Hickory	60.7777	-148.693	Y	13.696	7	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 12	369916000	USCG Hickory	60.7777	-148.693	Y	13.696	7	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 11 07	369916000	USCG HICKORY	60.9276	-151.217	Y	13.696	1	73	5	7	9	16	Both	Neither	11	12	14	20	Both	Both	12	14	16	22	Both	Both
2012 11 07	368856000	USCG SPAR	57.7272	-152.523	Y	13.696	3	73	22	25	35	38	Both	Neither	16	17	28	28	Both	Both	17	18	29	30	Both	Both
2012 01 04	368014000	USCG SYCAMORE	60.5517	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 01 04	368014000	USCG SYCAMORE	60.5517	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 01 18	368014000	USCG SYCAMORE	61.0992	-146.432	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 01 25	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 01	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 08	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 15	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 02 22	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 29	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 07	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 04 04	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 04 18	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 04 25	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 02	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 20	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 27	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 07 11	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 07 18	368014000	USCG SYCAMORE	60.3779	-147.409	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 08	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 29	368014000	USCG SYCAMORE	60.7958	-148.277	Y	13.696	7	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 12	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 19	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 26	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 12	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 19	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 11 07	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 05	368014000	USCG SYCAMORE	60.5517	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 12	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 19	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 26	368014000	USCG SYCAMORE	60.5518	-145.764	Y	13.696	6	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 14	367365030	Perseverance	60.6896	-151.422	N	15	2	73	3	3	4	6	Both	Neither	7	7	7	8	Both	Both	8	9	8	10	Both	Both
2012 03 21	367365030	Perseverance	60.6636	-151.394	N	15	2	73	3	3	4	6	Both	Neither	7	7	7	7	Both	Both	8	9	8	10	Both	Both
2012 04 25	367365030	Perseverance	61.0294	-151.218	N	15	1	73	2	3	3	4	Both	Neither	8	9	11	11	Both	Both	10	11	13	13	Both	Both
2012 01 18	366932130	BARBARA FOSS	60.7778	-148.673	Y	13	7	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 01	366932130	BARBARA FOSS	60.8145	-148.545	Y	13	7	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 29	366932130	BARBARA FOSS	60.5998	-147.864	Y	13	6	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 14	366932130	BARBARA FOSS	60.8147	-148.543	Y	13	7	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 26	366932130	BARBARA FOSS	60.4659	-147.836	Y	13	6	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 01 04	366887210	GUARDIAN	60.6427	-147.463	N	13.614	6	68	23	25	28	30	Both	Neither	18	18	22	22	Both	Both	16	16	19	19	Both	Both
2012 01 04	366887210	GUARDIAN	60.6427	-147.463	N	13.614	6	68	23	25	28	30	Both	Neither	18	18	22	22	Both	Both	16	16	19	19	Both	Both
2012 01 18	366887210	GUARDIAN	60.6425	-147.467	N	13.614	6	68	23	25	28	30	Both	Neither	18	18	22	22	Both	Both	16	16	19	19	Both	Both
2012 01 25	366887210	GUARDIAN	61.1037	-146.285	N	13.614	6	68	26	28	32	34	Both	Neither	21	22	25	26	Both	Both	19	19	23	23	Both	Both
2012 02 01	366887210	GUARDIAN	60.6423	-147.465	N	13.614	6	68	23	25	28	30	Both	Neither	18	18	22	22	Both	Both	16	16	19	19	Both	Both
2012 02 08	366887210	GUARDIAN	60.644	-147.466	N	13.614	6	68	23	25	28	30	Both	Neither	18	18	22	22	Both	Both	16	16	19	19	Both	Both
2012 02 15	366887210	GUARDIAN	61.1218	-146.344	N	13.614	6	68	26	28	32	34	Both	Neither	21	22	25	26	Both	Both	19	19	23	23	Both	Both
2012 02 22	366887210	GUARDIAN	61.1218	-146.342	N	13.614	6	68	26	28	32	34	Both	Neither	21	22	25	26	Both	Both	19	19	23	23	Both	Both
2012 02 29	366887210	GUARDIAN	61.1218	-146.342	N	13.614	6	68	26	28	32	34	Both	Neither	21	22	25	26	Both	Both	19	19	23	23	Both	Both
2012 03 07	366887210	GUARDIAN	61.0907	-146.402	N	13.614	6	68	26	28	32	34	Both	Neither	21	21	25	26	Both	Both	19	19	23	23	Both	Both
2012 03 14	366887210	GUARDIAN	60.6428	-147.468	N	13.614	6	68	23	25	28	30	Both	Neither	18	18	22	22	Both	Both	16	16	19	19	Both	Both
2012 03 21	366887210	GUARDIAN	60.6425	-147.464	N	13.614	6	68	23	25	28	30	Both	Neither	18	18	22	22	Both	Both	16	16	19	19	Both	Both
2012 03 28	366887210	GUARDIAN	60.9322	-146.888	N	13.614	6	68	24	27	30	32	Both	Neither	20	20	24	24	Both	Both	18	18	21	21	Both	Both
2012 04 04	366887210	GUARDIAN	61.1217	-146.343	N	13.614	6	68	26	28	32	34	Both	Neither	21	22	25	26	Both	Both	19	19	23	23	Both	Both
2012 05 16	366887210	GUARDIAN	61.1185	-146.35	N	13.614	6	68	26	28	32	34	Both	Neither	21	21	25	26	Both	Both	19	19	23	23	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 05 23	366887210	GUARDIAN	60.9888	-146.797	N	13.614	6	68	25	27	31	33	Both	Neither	20	20	24	24	Both	Both	18	18	22	22	Both	Both
2012 05 30	366887210	GUARDIAN	61.1215	-146.344	N	13.614	6	68	26	28	32	34	Both	Neither	21	22	25	26	Both	Both	19	19	23	23	Both	Both
2012 07 25	366887210	GUARDIAN	61.122	-146.343	N	13.614	6	68	26	28	32	34	Both	Neither	21	22	25	26	Both	Both	19	19	23	23	Both	Both
2012 08 01	366887210	GUARDIAN	60.6732	-147.354	N	13.614	6	68	23	25	28	31	Both	Neither	18	19	22	22	Both	Both	16	16	19	19	Both	Both
2012 08 15	366887210	GUARDIAN	61.0884	-146.381	N	13.614	6	68	26	28	32	34	Both	Neither	21	21	25	26	Both	Both	19	19	23	23	Both	Both
2012 08 22	366887210	GUARDIAN	61.1034	-146.275	N	13.614	6	68	26	28	32	34	Both	Neither	21	22	25	26	Both	Both	19	19	23	23	Both	Both
2012 08 29	366887210	GUARDIAN	60.9845	-146.803	N	13.614	6	68	25	27	31	33	Both	Neither	20	20	24	24	Both	Both	18	18	22	22	Both	Both
2012 09 05	366887210	GUARDIAN	61.0978	-146.535	N	13.614	6	68	25	28	31	34	Both	Neither	21	21	25	25	Both	Both	19	19	23	23	Both	Both
2012 09 12	366887210	GUARDIAN	60.6716	-147.354	N	13.614	6	68	23	25	28	31	Both	Neither	18	19	22	22	Both	Both	16	16	19	19	Both	Both
2012 10 05	366887210	GUARDIAN	61.0925	-146.599	N	13.614	6	68	25	28	31	34	Both	Neither	21	21	25	25	Both	Both	19	19	23	23	Both	Both
2012 10 12	366887210	GUARDIAN	60.6716	-147.354	N	13.614	6	68	23	25	28	31	Both	Neither	18	19	22	22	Both	Both	16	16	19	19	Both	Both
2012 10 25	366887210	GUARDIAN	61.0884	-146.381	N	13.614	6	68	26	28	32	34	Both	Neither	21	21	25	26	Both	Both	19	19	23	23	Both	Both
2012 11 07	366887210	GUARDIAN	61.0884	-146.382	N	13.614	6	68	26	28	32	34	Both	Neither	21	21	25	26	Both	Both	19	19	23	23	Both	Both
2012 11 14	366887210	GUARDIAN	61.0884	-146.381	N	13.614	6	68	26	28	32	34	Both	Neither	21	21	25	26	Both	Both	19	19	23	23	Both	Both
2012 12 05	366887210	GUARDIAN	61.1217	-146.309	N	13.614	6	68	26	28	32	34	Both	Neither	21	22	26	26	Both	Both	19	19	23	23	Both	Both
2012 12 19	366887210	GUARDIAN	61.0885	-146.381	N	13.614	6	68	26	28	32	34	Both	Neither	21	21	25	26	Both	Both	19	19	23	23	Both	Both
2012 12 26	366887210	GUARDIAN	60.906	-146.93	N	13.614	6	68	24	27	30	32	Both	Neither	20	20	24	24	Both	Both	18	18	21	21	Both	Both
2012 05 23	367910000	USCG LONG ISLAND	61.1254	-146.352	Y	13.512	6	67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 23	367910000	USCG LONG ISLAND	61.1254	-146.352	Y	13.512	6	67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 12	367910000	USCG LONG ISLAND	57.7838	-152.424	Y	13.512	3	67	21	25	34	38	Both	Neither	16	16	27	28	Both	Both	17	17	28	29	Both	Both
2012 09 12	367910000	USCG LONG ISLAND	57.7838	-152.424	Y	13.512	3	67	21	25	34	38	Both	Neither	16	16	27	28	Both	Both	17	17	28	29	Both	Both
2012 10 12	367910000	USCG LONG ISLAND	57.7839	-152.424	Y	13.512	3	67	21	25	34	38	Both	Neither	16	16	27	28	Both	Both	17	17	28	29	Both	Both
2012 10 12	367910000	USCG LONG ISLAND	57.7839	-152.424	Y	13.512	3	67	21	25	34	38	Both	Neither	16	16	27	28	Both	Both	17	17	28	29	Both	Both
2012 01 18	369514000	GULF TITAN	60.8049	-148.618	Y	9	7	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 08	369514000	GULF TITAN	60.1866	-146.633	Y	9	6	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 21	369514000	GULF TITAN	60.1772	-146.483	Y	9	6	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 20	369514000	GULF TITAN	60.7778	-148.673	Y	9	7	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 25	369514000	GULF TITAN	60.7777	-148.673	Y	9	7	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 11 07	369514000	GULF TITAN	61.2246	-149.91	Y	9	1	64	8	13	18	23	Both	Neither	19	19	31	34	Both	Both	21	23	33	39	Both	Both
2012 12 05	369514000	GULF TITAN	60.7816	-148.278	Y	9	7	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 26	366971980	MILLENNIUM STAR	59.6028	-151.41	Y	13.082	2	64	11	12	13	14	Both	Neither	5	5	5	5	Both	Both	7	8	7	9	Both	Both
2012 08 15	367519450	ARCTIC TITAN	61.2248	-149.91	Y	13.336	1	61	7	9	13	17	Both	Neither	14	14	22	24	Both	Both	15	16	24	26	Both	Both
2012 11 07	367519450	ARCTIC TITAN	60.8868	-151.221	Y	13.336	1	61	5	6	9	15	Both	Neither	11	12	14	18	Both	Both	12	14	15	21	Both	Both
2012 11 14	367519450	ARCTIC TITAN	60.6758	-151.395	Y	13.336	2	61	5	6	7	10	Both	Neither	10	11	11	13	Both	Both	12	13	12	15	Both	Both
2012 11 21	367519450	ARCTIC TITAN	59.5964	-148.882	Y	13.336	5	61	24	27	39	42	Both	Neither	18	18	31	32	Both	Both	19	20	32	33	Both	Both
2012 08 29	367017460	ELSBETH III	59.6046	-151.421	Y	13.336	2	61	11	12	13	14	Both	Neither	5	5	5	5	Both	Both	7	8	7	9	Both	Both
2012 09 05	367017460	ELSBETH III	59.6056	-151.415	Y	13.336	2	61	11	12	13	14	Both	Neither	5	5	5	5	Both	Both	7	8	7	9	Both	Both
2012 09 12	367017460	ELSBETH III	59.6056	-151.415	Y	13.336	2	61	11	12	13	14	Both	Neither	5	5	5	5	Both	Both	7	8	7	9	Both	Both
2012 09 19	367017460	ELSBETH III	59.6056	-151.415	Y	13.336	2	61	11	12	13	14	Both	Neither	5	5	5	5	Both	Both	7	8	7	9	Both	Both
2012 09 26	367017460	ELSBETH III	59.6056	-151.415	Y	13.336	2	61	11	12	13	14	Both	Neither	5	5	5	5	Both	Both	7	8	7	9	Both	Both
2012 10 05	367017460	ELSBETH III	59.6056	-151.415	Y	13.336	2	61	11	12	13	14	Both	Neither	5	5	5	5	Both	Both	7	8	7	9	Both	Both
2012 10 12	367017460	ELSBETH III	59.6056	-151.415	Y	13.336	2	61	11	12	13	14	Both	Neither	5	5	5	5	Both	Both	7	8	7	9	Both	Both
2012 10 19	367017460	ELSBETH III	59.6056	-151.415	Y	13.336	2	61	11	12	13	14	Both	Neither	5	5	5	5	Both	Both	7	8	7	9	Both	Both
2012 10 25	367017460	ELSBETH III	59.6047	-151.421	Y	13.336	2	61	11	12	13	14	Both	Neither	5	5	5	5	Both	Both	7	8	7	9	Both	Both
2012 11 07	367017460	ELSBETH III	59.6034	-151.419	Y	13.336	2	61	11	12	13	14	Both	Neither	5	5	5	5	Both	Both	7	8	7	9	Both	Both
2012 11 14	367017460	ELSBETH III	59.6034	-151.419	Y	13.336	2	61	11	12	13	14	Both	Neither	5	5	5	5	Both	Both	7	8	7	9	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 11 21	367017460	ELSBETH III	59.6035	-151.419	Y	13.336	2	61	11	12	13	14	Both	Neither	5	5	5	5	Both	Both	7	8	7	9	Both	Both
2012 11 28	367017460	ELSBETH III	59.6034	-151.419	Y	13.336	2	61	11	12	13	14	Both	Neither	5	5	5	5	Both	Both	7	8	7	9	Both	Both
2012 12 05	367017460	ELSBETH III	59.6035	-151.419	Y	13.336	2	61	11	12	13	14	Both	Neither	5	5	5	5	Both	Both	7	8	7	9	Both	Both
2012 02 22	366980180	OCEAN TITAN	60.8126	-148.461	Y	12	7	61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 04 25	366980180	OCEAN TITAN	60.2802	-146.798	Y	12	6	61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 26	366980180	OCEAN TITAN	60.3052	-147.954	Y	12	6	61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 23	367269000	USCG ACTIVE	57.3004	-151.956	Y	13.336	4	61	24	27	40	43	Both	Neither	19	19	33	33	Both	Both	20	20	33	35	Both	Both
2012 08 01	367269000	USCG ACTIVE	57.7255	-152.489	Y	13.336	3	61	22	25	36	39	Both	Neither	17	17	28	29	Both	Both	17	18	29	30	Both	Both
2012 01 04	367360890	BISMARCK SEA	59.8872	-147.989	Y	8	5	60	44	45	74	81	Both	Neither	33	34	61	62	Both	Both	34	36	62	66	Both	Both
2012 01 04	367360890	BISMARCK SEA	59.8872	-147.989	Y	8	5	60	44	45	74	81	Both	Neither	33	34	61	62	Both	Both	34	36	62	66	Both	Both
2012 01 18	367360890	BISMARCK SEA	61.2389	-149.89	Y	8	1	60	8	15	19	32	Both	Neither	20	22	34	41	Both	Both	23	26	37	45	Both	Both
2012 02 15	367360890	BISMARCK SEA	61.1279	-146.439	Y	8	6	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 22	367360890	BISMARCK SEA	61.2385	-149.89	Y	8	1	60	8	15	19	32	Both	Neither	20	22	34	41	Both	Both	23	26	37	45	Both	Both
2012 03 14	367360890	BISMARCK SEA	61.1234	-146.358	Y	8	6	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 28	367360890	BISMARCK SEA	61.1234	-146.358	Y	8	6	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 04 04	367360890	BISMARCK SEA	61.1233	-146.358	Y	8	6	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 04 25	367360890	BISMARCK SEA	61.0912	-150.594	Y	8	1	60	8	16	30	40	Both	Neither	17	24	39	41	Both	Both	20	27	42	45	Both	Both
2012 05 02	367360890	BISMARCK SEA	61.1834	-150.202	Y	8	1	60	8	16	21	39	Both	Neither	20	23	36	49	Both	Both	23	27	39	53	Both	Both
2012 05 16	367360890	BISMARCK SEA	59.7473	-152.032	Y	8	2	60	15	18	18	25	Both	Neither	8	8	8	9	Both	Both	10	12	10	13	Both	Both
2012 06 13	367360890	BISMARCK SEA	59.609	-152.144	Y	8	2	60	17	19	20	25	Both	Neither	7	7	7	8	Both	Both	9	11	9	12	Both	Both
2012 07 25	367360890	BISMARCK SEA	60.6539	-146.562	Y	8	6	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 01	367360890	BISMARCK SEA	57.7324	-152.354	Y	8	3	60	35	36	56	63	Both	Neither	25	25	43	45	Both	Both	26	28	44	48	Both	Both
2012 08 08	367360890	BISMARCK SEA	61.1777	-150.251	Y	8	1	60	8	17	22	41	Both	Neither	19	23	37	50	Both	Both	22	27	40	55	Both	Both
2012 08 15	367360890	BISMARCK SEA	61.1234	-146.358	Y	8	6	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 29	367360890	BISMARCK SEA	57.7835	-152.425	Y	8	3	60	35	36	55	63	Both	Neither	24	25	43	44	Both	Both	25	27	44	47	Both	Both
2012 09 05	367360890	BISMARCK SEA	61.1234	-146.358	Y	8	6	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 26	367360890	BISMARCK SEA	61.2391	-149.893	Y	8	1	60	8	15	19	31	Both	Neither	20	22	34	41	Both	Both	23	26	37	45	Both	Both
2012 10 05	367360890	BISMARCK SEA	61.1234	-146.358	Y	8	6	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 11 28	367360890	BISMARCK SEA	61.1262	-146.45	Y	8	6	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 01	368150000	POLAR CLOUD	60.1189	-149.426	Y	13	4	60	26	29	44	47	Both	Neither	21	21	36	37	Both	Both	21	22	37	38	Both	Both
2012 02 22	368150000	POLAR CLOUD	59.4047	-149.671	Y	13	4	60	21	24	33	37	Both	Neither	16	16	26	26	Both	Both	16	17	27	28	Both	Both
2012 03 14	368150000	POLAR CLOUD	60.119	-149.426	Y	13	4	60	26	29	44	47	Both	Neither	21	21	36	37	Both	Both	21	22	37	38	Both	Both
2012 07 11	368150000	POLAR CLOUD	60.9404	-151.181	Y	13	1	60	6	7	10	18	Both	Neither	11	12	15	21	Both	Both	13	15	17	24	Both	Both
2012 08 29	368150000	POLAR CLOUD	61.2248	-149.909	Y	13	1	60	7	9	13	17	Both	Neither	14	15	22	24	Both	Both	16	16	24	27	Both	Both
2012 12 26	368150000	POLAR CLOUD	60.1197	-149.426	Y	13	4	60	26	29	44	47	Both	Neither	21	21	36	37	Both	Both	21	22	37	38	Both	Both
2012 06 06	303144000	Polar Endurance	58.5458	-153.477	Y	13.336	3	60	19	22	28	32	Both	Neither	13	14	21	22	Both	Both	14	15	22	23	Both	Both
2012 06 27	303144000	Polar Endurance	57.851	-150.863	Y	13.336	4	60	22	25	34	38	Both	Neither	16	16	27	27	Both	Both	17	17	28	29	Both	Both
2012 09 05	303144000	Polar Endurance	57.6832	-154.029	Y	13.336	3	60	24	27	40	43	Both	Neither	19	19	32	33	Both	Both	19	20	33	34	Both	Both
2012 09 26	303144000	Polar Endurance	60.3775	-147.945	Y	13.336	6	60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 05	303144000	Polar Endurance	57.6749	-154.002	Y	13.336	3	60	24	27	40	43	Both	Neither	19	19	32	33	Both	Both	19	20	33	34	Both	Both
2012 02 29	367090860	POLAR RANGER	59.5418	-149.516	Y	13	4	60	22	25	35	38	Both	Neither	16	17	27	28	Both	Both	17	18	28	29	Both	Both
2012 06 27	367090860	POLAR RANGER	61.239	-149.89	Y	13	1	60	7	9	13	18	Both	Neither	14	15	23	25	Both	Both	16	16	24	28	Both	Both
2012 08 01	367090860	POLAR RANGER	57.702	-154.393	Y	13	3	60	25	29	42	45	Both	Neither	20	20	35	35	Both	Both	21	21	35	37	Both	Both
2012 08 22	367090860	POLAR RANGER	60.7756	-151.515	Y	13	1	60	5	6	7	11	Both	Neither	10	11	12	15	Both	Both	12	13	14	17	Both	Both
2012 01 18	367151000	POLAR VIKING	60.119	-149.426	Y	7	4	60	46	50	77	87	Both	Neither	35	36	63	65	Both	Both	36	38	65	69	Both	Both
2012 07 25	367151000	POLAR VIKING	60.8918	-151.254	Y	7	1	60	6	11	13	37	Both	Neither	17	20	24	32	Both	Both	20	24	26	38	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 08 29	367151000	POLAR VIKING	56.9493	-155.882	Y	7	3	60	59	63	103	113	Both	Neither	47	48	89	91	Both	Both	48	51	90	95	Both	Both
2012 09 19	367151000	POLAR VIKING	61.2248	-149.91	Y	7	1	60	8	18	20	44	Both	Neither	23	24	38	46	Both	Both	26	28	42	50	Both	Both
2012 10 19	367151000	POLAR VIKING	61.2248	-149.91	Y	7	1	60	8	18	20	44	Both	Neither	23	24	38	46	Both	Both	26	28	42	50	Both	Both
2012 04 25	366744920	PACIFIC EXPLORER	60.9336	-151.15	Y	11	1	59	6	8	12	20	Both	Neither	12	14	18	23	Both	Both	14	16	20	26	Both	Both
2012 08 15	366744920	PACIFIC EXPLORER	61.2247	-149.91	Y	11	1	59	7	10	15	18	Both	Neither	16	16	26	28	Both	Both	18	19	28	30	Both	Both
2012 08 22	366744920	PACIFIC EXPLORER	60.7583	-151.32	Y	11	1	59	5	6	6	10	Both	Neither	11	12	12	14	Both	Both	13	14	15	17	Both	Both
2012 08 29	366744920	PACIFIC EXPLORER	59.6064	-151.414	Y	11	2	59	13	14	15	15	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 09 05	366744920	PACIFIC EXPLORER	59.6063	-151.413	Y	11	2	59	13	14	15	15	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 09 12	366744920	PACIFIC EXPLORER	59.6064	-151.413	Y	11	2	59	13	14	15	15	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 09 19	366744920	PACIFIC EXPLORER	59.6063	-151.415	Y	11	2	59	13	14	15	15	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 09 26	366744920	PACIFIC EXPLORER	59.6062	-151.415	Y	11	2	59	13	14	15	15	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 10 05	366744920	PACIFIC EXPLORER	59.6063	-151.413	Y	11	2	59	13	14	15	15	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 10 12	366744920	PACIFIC EXPLORER	59.6063	-151.413	Y	11	2	59	13	14	15	15	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 10 19	366744920	PACIFIC EXPLORER	59.6063	-151.415	Y	11	2	59	13	14	15	15	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 10 25	366744920	PACIFIC EXPLORER	59.6046	-151.421	Y	11	2	59	13	14	15	16	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 11 07	366744920	PACIFIC EXPLORER	59.6035	-151.419	Y	11	2	59	13	14	15	16	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 11 14	366744920	PACIFIC EXPLORER	59.6057	-151.415	Y	11	2	59	13	14	15	15	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 11 21	366744920	PACIFIC EXPLORER	59.6035	-151.419	Y	11	2	59	13	14	15	16	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 11 28	366744920	PACIFIC EXPLORER	59.6064	-151.415	Y	11	2	59	13	14	15	15	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 12 05	366744920	PACIFIC EXPLORER	59.6035	-151.419	Y	11	2	59	13	14	15	16	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 12 12	366744920	PACIFIC EXPLORER	59.6034	-151.42	Y	11	2	59	13	14	15	16	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 12 19	366744920	PACIFIC EXPLORER	59.6035	-151.42	Y	11	2	59	13	14	15	16	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 12 26	366744920	PACIFIC EXPLORER	59.6035	-151.42	Y	11	2	59	13	14	15	16	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Both
2012 03 28	367153070	Mikiona	59.6643	-152.043	Y	12.774	2	57	11	14	12	16	Both	Neither	6	6	6	6	Both	Both	7	8	8	9	Both	Both
2012 02 08	303233000	ALASKA MARINER	60.7776	-148.673	Y	13	7	55	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 25	303233000	ALASKA MARINER	58.7845	-151.023	Y	13	4	55	17	20	24	27	Both	Neither	11	11	17	17	Both	Both	12	12	17	19	Both	Both
2012 05 30	367309390	PACIFIC FREEDOM	57.4989	-153.905	Y	13.126	3	55	25	28	42	45	Both	Neither	20	20	34	35	Both	Both	20	21	35	36	Both	Both
2012 07 11	367309390	PACIFIC FREEDOM	61.1259	-146.462	Y	13.126	6	55	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 07 18	367309390	PACIFIC FREEDOM	61.1233	-146.358	Y	13.126	6	55	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 26	367309390	PACIFIC FREEDOM	60.7081	-151.435	Y	13.126	2	55	5	6	6	10	Both	Neither	10	11	11	13	Both	Both	12	13	12	16	Both	Both
2012 01 04	367406560	BRIAN T	57.7768	-152.415	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 01 04	367406560	BRIAN T	57.7768	-152.415	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 01 18	367406560	BRIAN T	57.7768	-152.415	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 01 25	367406560	BRIAN T	57.7768	-152.415	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 02 01	367406560	BRIAN T	57.7836	-152.427	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 02 08	367406560	BRIAN T	57.7768	-152.415	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 02 15	367406560	BRIAN T	57.7768	-152.415	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 02 22	367406560	BRIAN T	57.7835	-152.429	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 02 29	367406560	BRIAN T	57.7768	-152.415	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 03 07	367406560	BRIAN T	60.1184	-149.427	N	13.082	4	54	18	21	23	25	Both	Neither	14	14	16	16	Both	Both	11	11	14	14	Both	Both
2012 03 14	367406560	BRIAN T	60.0847	-149.353	N	13.082	4	54	18	21	23	25	Both	Neither	14	14	16	16	Both	Both	11	11	13	13	Both	Both
2012 03 21	367406560	BRIAN T	60.1195	-149.426	N	13.082	4	54	18	21	23	25	Both	Neither	14	14	16	16	Both	Both	11	11	14	14	Both	Both
2012 03 28	367406560	BRIAN T	57.7768	-152.415	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 04 04	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 04 18	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 04 25	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both

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									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 05 02	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 05 16	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 05 23	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 05 30	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 06 06	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 06 13	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 06 20	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 06 27	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 07 11	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 07 18	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 07 25	367406560	BRIAN T	57.7742	-152.417	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 08 01	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 08 08	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 08 15	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 08 22	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 08 29	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 09 05	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 09 12	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 09 19	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 09 26	367406560	BRIAN T	57.7132	-152.54	N	13.082	3	54	16	19	20	22	Both	Neither	11	12	13	14	Both	Both	9	9	11	11	Both	Both
2012 10 05	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 10 12	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 10 19	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 10 25	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 11 14	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 11 21	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 11 28	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 12 05	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 12 12	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 12 19	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 12 26	367406560	BRIAN T	57.7762	-152.414	N	13.082	3	54	16	18	19	21	Both	Neither	11	11	13	13	Both	Both	9	9	10	10	Both	Both
2012 05 23	367413000	JAMES DUNLAP	57.2115	-155.373	Y	13.036	3	54	30	33	52	55	Both	Neither	25	25	45	45	Both	Both	25	26	45	47	Both	Both
2012 09 12	338752000	OCEAN RANGER	61.0396	-151.16	Y	7.8	1	52	7	13	20	37	Both	Neither	16	21	29	37	Both	Both	19	24	32	42	Both	Both
2012 09 19	338752000	OCEAN RANGER	59.6422	-151.3	Y	7.8	2	52	17	17	19	22	Both	Neither	6	7	6	7	Both	Both	9	12	9	14	Both	Both
2012 09 26	338752000	OCEAN RANGER	61.2249	-149.91	Y	7.8	1	52	8	15	19	32	Both	Neither	21	22	34	40	Both	Both	23	26	38	44	Both	Both
2012 10 12	338752000	OCEAN RANGER	61.0335	-151.167	Y	7.8	1	52	7	13	20	36	Both	Neither	16	21	29	37	Both	Both	19	24	32	41	Both	Both
2012 10 19	338752000	OCEAN RANGER	59.643	-151.298	Y	7.8	2	52	17	17	19	22	Both	Neither	6	7	6	7	Both	Both	9	12	9	14	Both	Both
2012 11 07	338752000	OCEAN RANGER	60.8981	-151.221	Y	7.8	1	52	6	10	13	30	Both	Neither	15	18	22	30	Both	Both	18	21	25	35	Both	Both
2012 11 14	338752000	OCEAN RANGER	60.1188	-149.427	Y	7.8	4	52	42	44	70	78	Both	Neither	31	32	57	59	Both	Both	32	35	58	62	Both	Both
2012 01 25	366888750	SEA PRINCE	59.6417	-148.208	Y	7.5	5	51	44	46	74	82	Both	Neither	33	34	60	62	Both	Both	34	36	62	65	Both	Both
2012 02 15	366888750	SEA PRINCE	60.6824	-151.444	Y	7.5	2	51	5	8	8	24	Both	Neither	15	17	16	20	Both	Both	18	20	19	25	Both	Both
2012 02 22	366888750	SEA PRINCE	60.3724	-147.923	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 14	366888750	SEA PRINCE	58.4878	-151.698	Y	7.5	4	51	28	30	39	48	Both	Neither	16	17	26	28	Both	Both	17	20	27	31	Both	Both
2012 03 28	366888750	SEA PRINCE	60.0527	-147.952	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 04 18	366888750	SEA PRINCE	61.0493	-146.683	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 04 25	366888750	SEA PRINCE	61.1286	-146.445	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 05 02	366888750	SEA PRINCE	61.1292	-146.445	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 16	366888750	SEA PRINCE	61.1284	-146.443	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 23	366888750	SEA PRINCE	61.2363	-149.893	Y	7.5	1	51	8	16	20	37	Both	Neither	21	23	36	44	Both	Both	24	27	40	48	Both	Both
2012 05 30	366888750	SEA PRINCE	61.2367	-149.892	Y	7.5	1	51	8	16	20	37	Both	Neither	21	23	36	44	Both	Both	24	27	40	48	Both	Both
2012 06 20	366888750	SEA PRINCE	61.1234	-146.358	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 27	366888750	SEA PRINCE	61.2366	-149.892	Y	7.5	1	51	8	16	20	37	Both	Neither	21	23	36	44	Both	Both	24	27	40	48	Both	Both
2012 07 11	366888750	SEA PRINCE	60.6652	-147.145	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 07 18	366888750	SEA PRINCE	59.6243	-151.389	Y	7.5	2	51	17	17	19	22	Both	Neither	6	6	6	6	Both	Both	9	12	9	13	Both	Both
2012 07 25	366888750	SEA PRINCE	61.1234	-146.358	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 08	366888750	SEA PRINCE	61.1293	-146.445	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 15	366888750	SEA PRINCE	59.7264	-152.08	Y	7.5	2	51	16	19	19	27	Both	Neither	8	8	8	9	Both	Both	10	12	10	14	Both	Both
2012 08 22	366888750	SEA PRINCE	60.5805	-147.181	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 29	366888750	SEA PRINCE	61.1234	-146.358	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 05	366888750	SEA PRINCE	61.2363	-149.893	Y	7.5	1	51	8	16	20	37	Both	Neither	21	23	36	44	Both	Both	24	27	40	48	Both	Both
2012 09 12	366888750	SEA PRINCE	61.1234	-146.358	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 19	366888750	SEA PRINCE	59.5962	-151.324	Y	7.5	2	51	17	18	20	23	Both	Neither	6	7	6	7	Both	Both	9	12	10	14	Both	Both
2012 09 26	366888750	SEA PRINCE	61.1233	-146.358	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 05	366888750	SEA PRINCE	61.2362	-149.893	Y	7.5	1	51	8	16	20	37	Both	Neither	21	23	36	44	Both	Both	24	27	40	48	Both	Both
2012 10 12	366888750	SEA PRINCE	61.1234	-146.358	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 19	366888750	SEA PRINCE	59.5974	-151.321	Y	7.5	2	51	17	18	20	23	Both	Neither	6	7	6	7	Both	Both	9	12	10	14	Both	Both
2012 11 07	366888750	SEA PRINCE	61.2363	-149.893	Y	7.5	1	51	8	16	20	37	Both	Neither	21	23	36	44	Both	Both	24	27	40	48	Both	Both
2012 11 14	366888750	SEA PRINCE	59.6071	-151.206	Y	7.5	2	51	18	18	20	23	Both	Neither	7	7	7	7	Both	Both	10	13	10	14	Both	Both
2012 11 21	366888750	SEA PRINCE	59.386	-152.08	Y	7.5	2	51	18	19	20	28	Both	Neither	6	7	6	7	Both	Both	7	9	8	10	Both	Both
2012 11 28	366888750	SEA PRINCE	61.1234	-146.358	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 05	366888750	SEA PRINCE	59.6835	-151.19	Y	7.5	2	51	18	19	20	24	Both	Neither	7	7	7	8	Both	Both	10	13	10	15	Both	Both
2012 12 26	366888750	SEA PRINCE	61.1295	-146.449	Y	7.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 01 18	367309430	PACIFIC WOLF	57.7869	-152.402	Y	8.5	3	51	33	34	52	58	Both	Neither	23	24	40	42	Both	Both	24	26	41	44	Both	Both
2012 02 01	367309430	PACIFIC WOLF	60.5584	-145.755	Y	8.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 08	367309430	PACIFIC WOLF	57.964	-152.315	Y	8.5	3	51	31	33	49	54	Both	Neither	21	22	37	38	Both	Both	22	24	38	41	Both	Both
2012 02 15	367309430	PACIFIC WOLF	61.1234	-146.358	Y	8.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 29	367309430	PACIFIC WOLF	60.6836	-151.4	Y	8.5	2	51	5	7	7	18	Both	Neither	14	15	14	18	Both	Both	17	18	18	22	Both	Both
2012 03 07	367309430	PACIFIC WOLF	58.129	-152.566	Y	8.5	3	51	32	34	51	56	Both	Neither	22	23	39	40	Both	Both	23	25	40	43	Both	Both
2012 03 14	367309430	PACIFIC WOLF	59.6023	-151.409	Y	8.5	2	51	16	16	18	19	Both	Neither	6	6	6	6	Both	Both	9	11	9	12	Both	Both
2012 03 21	367309430	PACIFIC WOLF	58.0242	-152.06	Y	8.5	3	51	30	31	46	51	Both	Neither	20	21	34	35	Both	Both	21	23	35	38	Both	Both
2012 03 28	367309430	PACIFIC WOLF	57.7815	-152.426	Y	8.5	3	51	33	34	53	58	Both	Neither	23	24	40	42	Both	Both	24	26	42	45	Both	Both
2012 04 18	367309430	PACIFIC WOLF	57.9011	-152.757	Y	8.5	3	51	34	35	54	59	Both	Neither	24	25	42	43	Both	Both	25	27	43	46	Both	Both
2012 04 25	367309430	PACIFIC WOLF	59.6111	-151.408	Y	8.5	2	51	15	16	18	19	Both	Neither	6	6	6	6	Both	Both	9	11	9	12	Both	Both
2012 05 02	367309430	PACIFIC WOLF	59.603	-151.411	Y	8.5	2	51	16	16	18	19	Both	Neither	6	6	6	6	Both	Both	9	11	9	12	Both	Both
2012 05 16	367309430	PACIFIC WOLF	59.6106	-151.403	Y	8.5	2	51	15	16	18	19	Both	Neither	6	6	6	6	Both	Both	9	11	9	12	Both	Both
2012 05 23	367309430	PACIFIC WOLF	59.7051	-148.674	Y	8.5	5	51	38	39	62	67	Both	Neither	28	28	49	51	Both	Both	29	30	50	53	Both	Both
2012 05 30	367309430	PACIFIC WOLF	59.6054	-151.408	Y	8.5	2	51	16	16	18	19	Both	Neither	6	6	6	6	Both	Both	9	11	9	12	Both	Both
2012 06 06	367309430	PACIFIC WOLF	60.5585	-145.755	Y	8.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 13	367309430	PACIFIC WOLF	60.6135	-151.436	Y	8.5	2	51	6	9	8	20	Both	Neither	14	16	14	17	Both	Both	17	19	17	22	Both	Both
2012 06 27	367309430	PACIFIC WOLF	59.6992	-151.959	Y	8.5	2	51	15	18	17	22	Both	Neither	7	7	7	8	Both	Both	9	11	9	12	Both	Both
2012 07 11	367309430	PACIFIC WOLF	59.6186	-151.412	Y	8.5	2	51	15	16	18	19	Both	Neither	6	6	6	6	Both	Both	9	11	9	12	Both	Both
2012 07 18	367309430	PACIFIC WOLF	57.7868	-152.402	Y	8.5	3	51	33	34	52	58	Both	Neither	23	24	40	42	Both	Both	24	26	41	44	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 07 25	367309430	PACIFIC WOLF	60.6834	-151.4	Y	8.5	2	51	5	7	7	18	Both	Neither	14	15	14	18	Both	Both	17	18	18	22	Both	Both
2012 08 01	367309430	PACIFIC WOLF	59.2429	-152.157	Y	8.5	3	51	17	18	20	25	Both	Neither	7	8	8	9	Both	Both	8	10	9	12	Both	Both
2012 08 08	367309430	PACIFIC WOLF	59.603	-151.411	Y	8.5	2	51	16	16	18	19	Both	Neither	6	6	6	6	Both	Both	9	11	9	12	Both	Both
2012 08 15	367309430	PACIFIC WOLF	57.6164	-153.949	Y	8.5	3	51	37	38	61	66	Both	Neither	27	28	49	50	Both	Both	28	30	50	53	Both	Both
2012 08 22	367309430	PACIFIC WOLF	59.6027	-151.409	Y	8.5	2	51	16	16	18	19	Both	Neither	6	6	6	6	Both	Both	9	11	9	12	Both	Both
2012 08 29	367309430	PACIFIC WOLF	59.6108	-151.404	Y	8.5	2	51	15	16	18	19	Both	Neither	6	6	6	6	Both	Both	9	11	9	12	Both	Both
2012 09 05	367309430	PACIFIC WOLF	59.6253	-151.401	Y	8.5	2	51	15	16	18	19	Both	Neither	6	6	6	6	Both	Both	9	11	9	12	Both	Both
2012 09 26	367309430	PACIFIC WOLF	57.9202	-152.5	Y	8.5	3	51	33	34	51	57	Both	Neither	23	23	39	40	Both	Both	24	25	40	43	Both	Both
2012 10 05	367309430	PACIFIC WOLF	59.6252	-151.401	Y	8.5	2	51	15	16	18	19	Both	Neither	6	6	6	6	Both	Both	9	11	9	12	Both	Both
2012 10 25	367309430	PACIFIC WOLF	59.6171	-151.405	Y	8.5	2	51	15	16	18	19	Both	Neither	6	6	6	6	Both	Both	9	11	9	12	Both	Both
2012 11 07	367309430	PACIFIC WOLF	60.1272	-151.794	Y	8.5	2	51	9	17	12	26	Both	Neither	11	12	11	12	Both	Both	13	15	14	17	Both	Both
2012 11 14	367309430	PACIFIC WOLF	60.7712	-151.3	Y	8.5	1	51	5	7	7	17	Both	Neither	14	14	15	19	Both	Both	17	17	18	23	Both	Both
2012 11 21	367309430	PACIFIC WOLF	60.6761	-151.434	Y	8.5	2	51	5	8	7	18	Both	Neither	14	15	14	18	Both	Both	17	18	17	22	Both	Both
2012 11 28	367309430	PACIFIC WOLF	60.6	-145.869	Y	8.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 19	367309430	PACIFIC WOLF	60.6784	-151.415	Y	8.5	2	51	5	8	7	18	Both	Neither	14	15	14	18	Both	Both	17	18	17	22	Both	Both
2012 12 26	367309430	PACIFIC WOLF	60.5586	-145.755	Y	8.5	6	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 04 18	366887970	PROTECTOR	61.1216	-146.343	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 04 25	366887970	PROTECTOR	60.7788	-148.667	Y	13.526	7	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 02	366887970	PROTECTOR	60.5586	-145.755	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 16	366887970	PROTECTOR	61.0892	-146.396	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 23	366887970	PROTECTOR	61.1038	-146.273	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 30	366887970	PROTECTOR	61.1218	-146.343	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 06	366887970	PROTECTOR	61.1145	-146.291	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 13	366887970	PROTECTOR	61.1216	-146.343	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 20	366887970	PROTECTOR	61.1104	-146.281	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 27	366887970	PROTECTOR	61.0958	-146.436	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 07 11	366887970	PROTECTOR	60.6733	-147.354	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 07 25	366887970	PROTECTOR	60.6727	-147.352	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 01	366887970	PROTECTOR	61.1216	-146.344	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 08	366887970	PROTECTOR	60.5586	-145.755	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 15	366887970	PROTECTOR	60.6725	-147.352	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 22	366887970	PROTECTOR	60.6721	-147.352	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 05	366887970	PROTECTOR	60.8317	-147.021	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 05	366887970	PROTECTOR	60.8389	-146.977	Y	13.526	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 23	368403000	POLAR STORM	61.2383	-149.891	Y	13	1	50	7	9	13	18	Both	Neither	14	15	23	25	Both	Both	16	16	24	28	Both	Both
2012 06 13	368403000	POLAR STORM	61.1067	-150.842	Y	13	1	50	7	9	18	21	Both	Neither	12	14	23	25	Both	Both	14	17	25	28	Both	Both
2012 09 12	368403000	POLAR STORM	61.2248	-149.91	Y	13	1	50	7	9	13	17	Both	Neither	14	15	22	24	Both	Both	16	16	24	27	Both	Both
2012 09 19	368403000	POLAR STORM	57.5833	-153.919	Y	13	3	50	25	28	41	44	Both	Neither	19	20	34	34	Both	Both	20	21	35	36	Both	Both
2012 10 12	368403000	POLAR STORM	61.2247	-149.91	Y	13	1	50	7	9	13	17	Both	Neither	14	15	22	24	Both	Both	16	16	24	27	Both	Both
2012 10 19	368403000	POLAR STORM	57.5835	-153.92	Y	13	3	50	25	28	41	44	Both	Neither	19	20	34	34	Both	Both	20	21	35	36	Both	Both
2012 11 14	368403000	POLAR STORM	60.1189	-149.426	Y	13	4	50	26	29	44	47	Both	Neither	21	21	36	37	Both	Both	21	22	37	38	Both	Both
2012 03 14	367400220	Resolution	60.6038	-151.45	Y	13	2	50	5	6	7	11	Both	Neither	11	12	11	13	Both	Both	12	14	12	15	Both	Both
2012 09 05	367400220	Resolution	60.7566	-151.311	Y	13	1	50	5	5	6	9	Both	Neither	10	11	11	13	Both	Both	12	13	13	15	Both	Both
2012 09 26	367400220	Resolution	60.6342	-151.364	Y	13	2	50	5	6	7	11	Both	Neither	11	12	11	13	Both	Both	12	14	12	16	Both	Both
2012 10 05	367400220	Resolution	60.7566	-151.311	Y	13	1	50	5	5	6	9	Both	Neither	10	11	11	13	Both	Both	12	13	13	15	Both	Both
2012 11 07	367400220	Resolution	60.9394	-151.266	Y	13	1	50	6	7	10	17	Both	Neither	11	12	15	20	Both	Both	13	14	17	23	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 11 14	367400220	Resolution	60.9763	-151.316	Y	13	1	50	6	7	11	18	Both	Neither	11	13	16	21	Both	Both	13	15	18	24	Both	Both
2012 12 19	367400220	Resolution	60.6442	-151.366	Y	13	2	50	5	6	7	11	Both	Neither	11	12	11	13	Both	Both	12	14	12	16	Both	Both
2012 05 23	367579000	WESTERN RANGER	57.7303	-152.371	Y	9.5	3	50	30	32	49	51	Both	Neither	21	22	37	38	Both	Both	22	24	38	41	Both	Both
2012 08 22	367579000	WESTERN RANGER	60.7645	-151.362	Y	9.5	1	50	5	6	6	12	Both	Neither	12	13	13	15	Both	Both	15	16	17	18	Both	Both
2012 09 12	367579000	WESTERN RANGER	61.1031	-150.895	Y	9.5	1	50	7	12	21	34	Both	Neither	15	19	28	36	Both	Both	17	21	31	39	Both	Both
2012 09 19	367579000	WESTERN RANGER	59.6326	-151.403	Y	9.5	2	50	14	15	17	17	Both	Neither	5	6	5	6	Both	Both	8	10	8	11	Both	Both
2012 09 26	367579000	WESTERN RANGER	60.2449	-147.987	Y	9.5	6	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 12	367579000	WESTERN RANGER	61.1219	-150.816	Y	9.5	1	50	8	12	23	35	Both	Neither	15	19	30	36	Both	Both	18	22	33	39	Both	Both
2012 10 19	367579000	WESTERN RANGER	59.6326	-151.403	Y	9.5	2	50	14	15	17	17	Both	Neither	5	6	5	6	Both	Both	8	10	8	11	Both	Both
2012 01 04	367186610	STELLAR WIND	61.2251	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 01 04	367186610	STELLAR WIND	61.2251	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 01 18	367186610	STELLAR WIND	61.2251	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 01 25	367186610	STELLAR WIND	61.2264	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	24	Both	Both
2012 02 01	367186610	STELLAR WIND	61.2248	-149.91	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 02 08	367186610	STELLAR WIND	61.2249	-149.91	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 02 15	367186610	STELLAR WIND	61.2251	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 02 22	367186610	STELLAR WIND	61.225	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 02 29	367186610	STELLAR WIND	61.2251	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 03 07	367186610	STELLAR WIND	61.2251	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 03 14	367186610	STELLAR WIND	61.2251	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 03 21	367186610	STELLAR WIND	61.2406	-149.915	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	24	Both	Both
2012 03 28	367186610	STELLAR WIND	61.2251	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 04 04	367186610	STELLAR WIND	61.2251	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 04 18	367186610	STELLAR WIND	61.2251	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 04 25	367186610	STELLAR WIND	61.2251	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 05 02	367186610	STELLAR WIND	61.2251	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 05 16	367186610	STELLAR WIND	61.2292	-149.902	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	24	Both	Both
2012 05 23	367186610	STELLAR WIND	61.2252	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 05 30	367186610	STELLAR WIND	61.2251	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 06 06	367186610	STELLAR WIND	61.2311	-149.908	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	24	Both	Both
2012 06 13	367186610	STELLAR WIND	61.2276	-149.908	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	24	Both	Both
2012 06 20	367186610	STELLAR WIND	61.225	-149.911	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 06 27	367186610	STELLAR WIND	61.2248	-149.91	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 07 11	367186610	STELLAR WIND	61.2248	-149.91	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 07 18	367186610	STELLAR WIND	61.2442	-149.886	N	12.646	1	49	5	7	12	13	Both	Neither	12	13	20	21	Both	Both	14	15	22	24	Both	Both
2012 07 25	367186610	STELLAR WIND	61.2253	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 08 01	367186610	STELLAR WIND	61.2446	-149.887	N	12.646	1	49	5	7	12	13	Both	Neither	12	13	20	21	Both	Both	14	15	22	24	Both	Both
2012 08 08	367186610	STELLAR WIND	61.2251	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 08 15	367186610	STELLAR WIND	61.225	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 08 22	367186610	STELLAR WIND	61.225	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 08 29	367186610	STELLAR WIND	61.2249	-149.91	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 09 05	367186610	STELLAR WIND	61.225	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 09 12	367186610	STELLAR WIND	61.2315	-149.9	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	24	Both	Both
2012 09 19	367186610	STELLAR WIND	61.2315	-149.906	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	24	Both	Both
2012 09 26	367186610	STELLAR WIND	61.238	-149.893	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	15	22	24	Both	Both
2012 10 05	367186610	STELLAR WIND	61.225	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 10 12	367186610	STELLAR WIND	61.2315	-149.9	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	24	Both	Both
2012 10 19	367186610	STELLAR WIND	61.2289	-149.909	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	24	Both	Both
2012 10 25	367186610	STELLAR WIND	61.2249	-149.91	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 11 07	367186610	STELLAR WIND	61.2442	-149.886	N	12.646	1	49	5	7	12	13	Both	Neither	12	13	20	21	Both	Both	14	15	22	24	Both	Both
2012 11 14	367186610	STELLAR WIND	61.2414	-149.888	N	12.646	1	49	5	7	12	13	Both	Neither	12	13	20	21	Both	Both	14	15	22	24	Both	Both
2012 11 21	367186610	STELLAR WIND	61.2249	-149.91	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 11 28	367186610	STELLAR WIND	61.2248	-149.91	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 12 05	367186610	STELLAR WIND	61.2246	-149.91	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 12 12	367186610	STELLAR WIND	61.2248	-149.91	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 12 19	367186610	STELLAR WIND	61.2246	-149.91	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 12 26	367186610	STELLAR WIND	61.2248	-149.91	N	12.646	1	49	5	7	11	13	Both	Neither	12	13	20	21	Both	Both	14	14	22	23	Both	Both
2012 04 25	303275000	JUSTINE FOSS	60.9321	-151.152	Y	13	1	49	6	7	10	18	Both	Neither	11	12	15	21	Both	Both	13	15	17	24	Both	Both
2012 06 06	303275000	JUSTINE FOSS	59.4379	-143.597	Y	13	5	49	42	45	77	80	Both	Neither	37	37	69	70	Both	Both	37	38	70	71	Both	Both
2012 06 27	303275000	JUSTINE FOSS	60.1685	-146.464	Y	13	6	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 07 11	303275000	JUSTINE FOSS	60.1753	-146.661	Y	13	6	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 15	303275000	JUSTINE FOSS	60.7777	-148.673	Y	13	7	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 05	303275000	JUSTINE FOSS	60.7777	-148.673	Y	13	7	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 19	303275000	JUSTINE FOSS	60.1564	-146.447	Y	13	6	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 26	303275000	JUSTINE FOSS	60.3488	-147.919	Y	13	6	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 05	303275000	JUSTINE FOSS	60.7777	-148.673	Y	13	7	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 19	303275000	JUSTINE FOSS	60.1553	-146.443	Y	13	6	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 11 21	303275000	JUSTINE FOSS	60.1829	-146.555	Y	13	6	49	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 19	367309320	JOHN BRIX	59.7051	-151.144	Y	12	2	49	12	14	15	16	Both	Neither	6	6	6	6	Both	Both	8	10	8	10	Both	Both
2012 12 26	367309320	JOHN BRIX	57.8824	-153.924	Y	12	3	49	25	28	41	44	Both	Neither	19	19	33	33	Both	Both	20	21	33	35	Both	Both
2012 06 20	303231480	MANFRED NYSTROM	61.2364	-149.892	Y	12.848	1	49	7	9	14	18	Both	Neither	14	15	23	25	Both	Both	16	17	25	28	Both	Both
2012 09 05	303231480	MANFRED NYSTROM	61.2248	-149.91	Y	12.848	1	49	7	9	13	17	Both	Neither	14	15	23	24	Both	Both	16	16	24	27	Both	Both
2012 10 05	303231480	MANFRED NYSTROM	61.2247	-149.91	Y	12.848	1	49	7	9	13	17	Both	Neither	14	15	23	24	Both	Both	16	16	24	27	Both	Both
2012 05 02	367309440	SEA HAWK	60.6578	-151.412	Y	6	2	49	6	12	8	47	Both	Neither	18	22	18	24	Both	Both	21	28	22	31	Both	Both
2012 08 08	367309440	SEA HAWK	60.6603	-151.407	Y	6	2	49	6	12	8	47	Both	Neither	18	22	18	24	Both	Both	21	28	22	32	Both	Both
2012 08 22	367309440	SEA HAWK	59.6063	-151.414	Y	6	2	49	19	22	23	27	Both	Neither	7	7	7	7	Both	Both	11	14	11	15	Both	Both
2012 08 29	367309440	SEA HAWK	60.5339	-151.623	Y	6	2	49	7	18	9	45	Both	Neither	18	20	18	22	Both	Both	21	26	21	29	Both	Both
2012 09 26	367309220	ALTAIR	61.2365	-149.901	Y	12	1	47	7	10	14	18	Both	Neither	15	15	24	26	Both	Both	17	18	26	29	Both	Both
2012 06 20	366934290	SANDRA FOSS	57.9203	-152.807	Y	13	3	46	23	26	37	40	Both	Neither	17	17	29	30	Both	Both	18	19	30	31	Both	Both
2012 06 20	366932970	STACEY FOSS	57.5964	-154.566	Y	11.5	3	46	30	33	50	52	Both	Neither	23	23	41	41	Both	Both	24	25	42	43	Both	Both
2012 02 08	367190440	LE CHEVAL ROUGE	57.777	-152.415	Y	12.594	3	43	23	26	37	40	Both	Neither	17	17	29	29	Both	Both	18	19	30	31	Both	Both
2012 02 15	367190440	LE CHEVAL ROUGE	57.777	-152.415	Y	12.594	3	43	23	26	37	40	Both	Neither	17	17	29	29	Both	Both	18	19	30	31	Both	Both
2012 02 29	367190440	LE CHEVAL ROUGE	57.777	-152.415	Y	12.594	3	43	23	26	37	40	Both	Neither	17	17	29	29	Both	Both	18	19	30	31	Both	Both
2012 03 07	367190440	LE CHEVAL ROUGE	57.777	-152.415	Y	12.594	3	43	23	26	37	40	Both	Neither	17	17	29	29	Both	Both	18	19	30	31	Both	Both
2012 03 14	367190440	LE CHEVAL ROUGE	57.777	-152.415	Y	12.594	3	43	23	26	37	40	Both	Neither	17	17	29	29	Both	Both	18	19	30	31	Both	Both
2012 03 21	367190440	LE CHEVAL ROUGE	57.777	-152.415	Y	12.594	3	43	23	26	37	40	Both	Neither	17	17	29	29	Both	Both	18	19	30	31	Both	Both
2012 05 23	303304000	OCEAN MARINER	57.9203	-152.5	Y	9.2	3	40	30	32	48	51	Both	Neither	21	22	36	38	Both	Both	22	24	38	40	Both	Both
2012 05 30	303304000	OCEAN MARINER	60.1186	-149.426	Y	9.2	4	40	36	38	61	64	Both	Neither	27	28	49	50	Both	Both	28	30	50	53	Both	Both
2012 09 05	303304000	OCEAN MARINER	61.2249	-149.91	Y	9.2	1	40	7	12	18	22	Both	Neither	18	19	30	33	Both	Both	20	23	32	37	Both	Both
2012 09 12	303304000	OCEAN MARINER	56.9214	-155.964	Y	9.2	3	40	46	48	81	84	Both	Neither	37	38	70	71	Both	Both	38	40	71	73	Both	Both
2012 10 05	303304000	OCEAN MARINER	61.2249	-149.91	Y	9.2	1	40	7	12	18	22	Both	Neither	18	19	30	33	Both	Both	20	23	32	37	Both	Both
2012 10 12	303304000	OCEAN MARINER	56.941	-155.918	Y	9.2	3	40	46	48	81	84	Both	Neither	37	38	69	70	Both	Both	38	39	70	73	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 02 29	369959000	OSCAR DYSON	57.7837	-152.426	Y	12.386	3	38	23	26	37	40	Both	Neither	17	18	29	30	Both	Both	18	19	30	31	Both	Both
2012 03 28	369959000	OSCAR DYSON	57.7837	-152.426	Y	12.386	3	38	23	26	37	40	Both	Neither	17	18	29	30	Both	Both	18	19	30	31	Both	Both
2012 04 04	369959000	OSCAR DYSON	57.7837	-152.426	Y	12.386	3	38	23	26	37	40	Both	Neither	17	18	29	30	Both	Both	18	19	30	31	Both	Both
2012 04 18	369959000	OSCAR DYSON	57.7837	-152.426	Y	12.386	3	38	23	26	37	40	Both	Neither	17	18	29	30	Both	Both	18	19	30	31	Both	Both
2012 04 25	369959000	OSCAR DYSON	57.731	-152.513	Y	12.386	3	38	24	27	38	41	Both	Neither	18	18	30	31	Both	Both	18	19	31	32	Both	Both
2012 01 04	366864250	CHAHUNTA	59.7466	-149.427	Y	12.376	4	38	25	28	41	43	Both	Neither	19	19	32	33	Both	Both	20	20	33	35	Both	Both
2012 01 04	366864250	CHAHUNTA	59.7466	-149.427	Y	12.376	4	38	25	28	41	43	Both	Neither	19	19	32	33	Both	Both	20	20	33	35	Both	Both
2012 02 22	366864250	CHAHUNTA	60.1192	-149.432	Y	12.376	4	38	27	30	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	39	40	Both	Both
2012 03 21	366864250	CHAHUNTA	61.2391	-149.916	Y	12.376	1	38	7	9	14	18	Both	Neither	15	15	23	25	Both	Both	16	17	25	28	Both	Both
2012 06 06	366864250	CHAHUNTA	60.1176	-149.427	Y	12.376	4	38	27	30	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	38	40	Both	Both
2012 06 27	366864250	CHAHUNTA	59.7885	-152.041	Y	12.376	2	38	10	14	11	18	Both	Neither	7	7	7	7	Both	Both	8	9	9	10	Both	Both
2012 07 18	366864250	CHAHUNTA	60.5818	-151.851	Y	12.376	2	38	6	8	8	13	Both	Neither	10	11	10	12	Both	Both	12	13	12	14	Both	Both
2012 07 25	366864250	CHAHUNTA	61.2135	-149.955	Y	12.376	1	38	7	9	13	16	Both	Neither	14	15	23	24	Both	Both	16	17	25	27	Both	Both
2012 08 29	366864250	CHAHUNTA	60.1191	-149.432	Y	12.376	4	38	27	30	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	39	40	Both	Both
2012 09 05	366864250	CHAHUNTA	60.1191	-149.432	Y	12.376	4	38	27	30	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	39	40	Both	Both
2012 10 05	366864250	CHAHUNTA	60.1191	-149.432	Y	12.376	4	38	27	30	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	39	40	Both	Both
2012 10 25	366864250	CHAHUNTA	60.1193	-149.433	Y	12.376	4	38	27	30	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	39	40	Both	Both
2012 11 07	366864250	CHAHUNTA	60.1192	-149.432	Y	12.376	4	38	27	30	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	39	40	Both	Both
2012 12 12	366864250	CHAHUNTA	60.1194	-149.426	Y	12.376	4	38	27	30	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	39	40	Both	Both
2012 12 19	366864250	CHAHUNTA	60.1192	-149.432	Y	12.376	4	38	27	30	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	39	40	Both	Both
2012 02 08	367048010	CHAMPION	60.7421	-151.311	N	12	1	38	3	3	4	6	Both	Neither	9	9	9	10	Both	Both	10	11	12	12	Both	Both
2012 03 14	367048010	CHAMPION	60.5888	-151.449	N	12	2	38	3	4	4	8	Both	Neither	8	8	8	8	Both	Both	9	11	10	11	Both	Both
2012 03 28	367048010	CHAMPION	60.6368	-151.365	N	12	2	38	3	4	4	8	Both	Neither	8	8	8	9	Both	Both	10	11	10	11	Both	Both
2012 11 14	367048010	CHAMPION	60.7543	-151.311	N	12	1	38	3	3	3	6	Both	Neither	9	9	9	10	Both	Both	10	11	12	12	Both	Both
2012 11 21	367048010	CHAMPION	60.8299	-151.606	N	12	1	38	3	3	4	7	Both	Neither	9	9	10	11	Both	Both	11	12	13	13	Both	Both
2012 11 28	367048010	CHAMPION	60.8314	-151.603	N	12	1	38	3	3	4	7	Both	Neither	9	9	10	11	Both	Both	11	12	13	13	Both	Both
2012 12 05	367048010	CHAMPION	60.7421	-151.311	N	12	1	38	3	3	4	6	Both	Neither	9	9	9	10	Both	Both	10	11	12	12	Both	Both
2012 12 12	367048010	CHAMPION	60.7527	-151.309	N	12	1	38	3	3	3	6	Both	Neither	9	9	9	10	Both	Both	10	11	12	12	Both	Both
2012 12 19	367048010	CHAMPION	60.8292	-151.486	N	12	1	38	3	3	3	5	Both	Neither	9	9	10	10	Both	Both	11	12	12	13	Both	Both
2012 12 26	367048010	CHAMPION	60.6383	-151.365	N	12	2	38	3	4	4	8	Both	Neither	8	8	8	9	Both	Both	10	11	10	11	Both	Both
2012 02 08	367098550	HEIDI L BRUSCO	57.7317	-152.523	Y	12.376	3	38	24	27	38	41	Both	Neither	18	18	30	31	Both	Both	19	19	31	32	Both	Both
2012 05 02	367098550	HEIDI L BRUSCO	58.2681	-151.437	Y	12.376	4	38	19	22	29	32	Both	Neither	13	14	21	22	Both	Both	14	15	22	23	Both	Both
2012 05 30	367098550	HEIDI L BRUSCO	57.7312	-152.524	Y	12.376	3	38	24	27	38	41	Both	Neither	18	18	30	31	Both	Both	19	19	31	32	Both	Both
2012 06 13	367098550	HEIDI L BRUSCO	57.731	-152.524	Y	12.376	3	38	24	27	38	41	Both	Neither	18	18	30	31	Both	Both	19	19	31	32	Both	Both
2012 07 18	367098550	HEIDI L BRUSCO	60.1189	-149.426	Y	12.376	4	38	27	30	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	39	40	Both	Both
2012 07 25	367098550	HEIDI L BRUSCO	60.6157	-146.469	Y	12.376	6	38	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 08	367098550	HEIDI L BRUSCO	58.2633	-151.442	Y	12.376	4	38	19	23	30	32	Both	Neither	13	14	21	22	Both	Both	14	15	22	24	Both	Both
2012 08 15	367098550	HEIDI L BRUSCO	61.0743	-146.659	Y	12.376	6	38	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 22	367098550	HEIDI L BRUSCO	57.731	-152.523	Y	12.376	3	38	24	27	38	41	Both	Neither	18	18	30	31	Both	Both	19	19	31	32	Both	Both
2012 04 25	366622140	MAIA H	60.1192	-149.426	Y	11	4	38	31	33	52	53	Both	Neither	24	24	42	43	Both	Both	24	25	43	45	Both	Both
2012 05 23	366622140	MAIA H	60.1193	-149.426	Y	11	4	38	31	33	52	53	Both	Neither	24	24	42	43	Both	Both	24	25	43	45	Both	Both
2012 11 07	366622140	MAIA H	57.7771	-152.415	Y	11	3	38	26	29	42	44	Both	Neither	19	19	32	33	Both	Both	20	21	33	35	Both	Both
2012 06 13	367522510	OCEAN EAGLE	60.0425	-149.379	Y	12.376	4	38	27	30	45	48	Both	Neither	21	21	36	37	Both	Both	22	22	37	39	Both	Both
2012 06 20	367522510	OCEAN EAGLE	60.1188	-149.426	Y	12.376	4	38	27	30	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	39	40	Both	Both
2012 08 01	367522510	OCEAN EAGLE	60.119	-149.426	Y	12.376	4	38	27	30	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	39	40	Both	Both
2012 08 29	367522510	OCEAN EAGLE	57.7315	-152.523	Y	12.376	3	38	24	27	38	41	Both	Neither	18	18	30	31	Both	Both	19	19	31	32	Both	Both

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 09 05	367522510	OCEAN EAGLE	60.1191	-149.427	Y	12.376	4	38	27	30	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	39	40	Both	Both
2012 10 05	367522510	OCEAN EAGLE	60.1192	-149.427	Y	12.376	4	38	27	30	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	39	40	Both	Both
2012 11 21	367522510	OCEAN EAGLE	60.119	-149.426	Y	12.376	4	38	27	30	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	39	40	Both	Both
2012 06 27	367131980	POLAR WIND	56.8969	-154.249	Y	12.32	3	37	31	34	54	57	Both	Neither	25	26	45	46	Both	Both	26	27	46	48	Both	Both
2012 08 01	367131980	POLAR WIND	58.076	-153.996	Y	12.32	3	37	24	27	38	41	Both	Neither	18	18	30	31	Both	Both	18	19	31	32	Both	Both
2012 08 22	367131980	POLAR WIND	56.8969	-154.249	Y	12.32	3	37	31	34	54	57	Both	Neither	25	26	45	46	Both	Both	26	27	46	48	Both	Both
2012 09 12	367131980	POLAR WIND	56.6096	-155.604	Y	12.32	3	37	36	39	63	66	Both	Neither	30	30	55	56	Both	Both	31	31	56	57	Both	Both
2012 10 12	367131980	POLAR WIND	56.6096	-155.604	Y	12.32	3	37	36	39	63	66	Both	Neither	30	30	55	56	Both	Both	31	31	56	57	Both	Both
2012 11 07	367131980	POLAR WIND	61.129	-150.719	Y	12.32	1	37	7	10	20	26	Both	Neither	13	16	25	30	Both	Both	15	18	27	32	Both	Both
2012 12 19	367131980	POLAR WIND	59.5747	-150.531	Y	12.32	4	37	21	24	33	36	Both	Neither	15	15	25	25	Both	Both	16	17	26	27	Both	Both
2012 12 26	367131980	POLAR WIND	60.5481	-145.768	Y	12.32	6	37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 14	338726000	ISLAND CHAMPION	59.6062	-151.415	Y	12.262	2	36	12	13	14	15	Both	Neither	5	5	5	6	Both	Both	7	8	8	9	Both	Both
2012 08 22	338726000	ISLAND CHAMPION	61.2247	-149.91	Y	12.262	1	36	7	9	14	18	Both	Neither	15	15	23	25	Both	Both	16	17	26	28	Both	Both
2012 01 18	303284000	Discovery	59.35	-151.817	N	12	2	32	9	12	12	14	Both	Neither	3	3	3	3	Both	Both	3	4	4	4	Both	Both
2012 02 08	303284000	Discovery	59.3546	-151.817	N	12	2	32	9	12	11	14	Both	Neither	3	3	3	3	Both	Both	4	4	4	4	Both	Both
2012 02 22	303284000	Discovery	59.3533	-151.811	N	12	2	32	9	12	11	14	Both	Neither	3	3	3	3	Both	Both	4	4	4	5	Both	Both
2012 04 18	303284000	Discovery	59.3504	-151.824	N	12	2	32	9	12	12	14	Both	Neither	3	3	3	3	Both	Both	3	4	4	4	Both	Both
2012 11 07	303284000	Discovery	60.9172	-151.132	N	12	1	32	2	2	3	3	Both	Neither	10	10	12	12	Both	Both	11	12	14	15	Both	Both
2012 11 14	303284000	Discovery	59.3595	-151.82	N	12	2	32	9	12	11	14	Both	Neither	3	3	3	3	Both	Both	4	4	4	5	Both	Both
2012 11 28	303284000	Discovery	59.3512	-151.822	N	12	2	32	9	12	12	14	Both	Neither	3	3	3	3	Both	Both	3	4	4	4	Both	Both
2012 12 05	303284000	Discovery	59.3522	-151.815	N	12	2	32	9	12	12	14	Both	Neither	3	3	3	3	Both	Both	4	4	4	4	Both	Both
2012 12 12	303284000	Discovery	59.3518	-151.821	N	12	2	32	9	12	12	14	Both	Neither	3	3	3	3	Both	Both	3	4	4	4	Both	Both
2012 12 26	303284000	Discovery	59.3557	-151.818	N	12	2	32	9	12	11	14	Both	Neither	3	3	3	3	Both	Both	4	4	4	5	Both	Both
2012 01 04	367008020	ARTHUR BRUSCO	58.4749	-151.089	Y	8	4	32	28	29	41	48	Both	Neither	17	18	28	30	Both	Both	18	20	29	33	Both	Both
2012 01 04	367008020	ARTHUR BRUSCO	58.4749	-151.089	Y	8	4	32	28	29	41	48	Both	Neither	17	18	28	30	Both	Both	18	20	29	33	Both	Both
2012 01 18	367008020	ARTHUR BRUSCO	60.1183	-149.427	Y	8	4	32	42	42	68	76	Both	Neither	31	32	56	57	Both	Both	32	34	57	60	Both	Both
2012 02 01	367008020	ARTHUR BRUSCO	60.5383	-146.651	Y	8	6	32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 22	367008020	ARTHUR BRUSCO	60.1189	-149.426	Y	8	4	32	42	42	68	76	Both	Neither	31	32	56	57	Both	Both	32	34	57	60	Both	Both
2012 03 07	367008020	ARTHUR BRUSCO	61.1216	-146.309	Y	8	6	32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 14	367008020	ARTHUR BRUSCO	57.7313	-152.524	Y	8	3	32	36	37	57	64	Both	Neither	25	26	44	46	Both	Both	26	28	46	49	Both	Both
2012 03 28	367008020	ARTHUR BRUSCO	58.2263	-151.044	Y	8	4	32	31	31	46	53	Both	Neither	20	21	33	35	Both	Both	21	23	35	38	Both	Both
2012 04 25	367133090	The Green Provider	59.0732	-150.031	Y	11.6	4	32	22	25	34	36	Both	Neither	15	16	25	26	Both	Both	16	17	26	27	Both	Both
2012 07 25	367133090	The Green Provider	60.8518	-151.233	Y	11.6	1	32	5	7	8	16	Both	Neither	11	13	14	19	Both	Both	13	15	16	22	Both	Both
2012 06 27	369960000	FAIRWEATHER	58.0256	-152.061	Y	12.026	3	31	22	25	34	36	Both	Neither	15	16	25	26	Both	Both	16	17	26	28	Both	Both
2012 09 12	369960000	FAIRWEATHER	58.0516	-152.493	Y	12.026	3	31	23	26	37	39	Both	Neither	17	17	28	29	Both	Both	18	18	29	31	Both	Both
2012 09 19	369960000	FAIRWEATHER	58.0976	-152.408	Y	12.026	3	31	23	26	36	39	Both	Neither	16	17	27	28	Both	Both	17	18	28	30	Both	Both
2012 10 05	369960000	FAIRWEATHER	57.7294	-152.516	Y	12.026	3	31	24	27	40	42	Both	Neither	18	19	31	32	Both	Both	19	20	32	33	Both	Both
2012 10 12	369960000	FAIRWEATHER	58.0549	-152.484	Y	12.026	3	31	23	26	37	39	Both	Neither	17	17	28	29	Both	Both	18	18	29	30	Both	Both
2012 10 19	369960000	FAIRWEATHER	58.1003	-152.404	Y	12.026	3	31	23	26	36	39	Both	Neither	16	17	27	28	Both	Both	17	18	28	30	Both	Both
2012 08 15	303935000	RAINIER-NOAA	57.6273	-154.515	Y	12.026	3	31	28	31	47	50	Both	Neither	22	22	39	39	Both	Both	23	23	39	41	Both	Both
2012 09 19	303935000	RAINIER-NOAA	57.969	-152.922	Y	12.026	3	31	25	28	40	43	Both	Neither	19	19	32	32	Both	Both	19	20	33	34	Both	Both
2012 10 25	303935000	RAINIER-NOAA	57.8933	-152.652	Y	12.026	3	31	24	27	39	41	Both	Neither	18	18	30	31	Both	Both	19	19	31	33	Both	Both
2012 05 23	367498540	WENDY O	60.0747	-151.912	Y	10	2	30	9	15	11	22	Both	Neither	9	10	10	11	Both	Both	11	13	12	14	Both	Tanker Only
2012 05 30	367498540	WENDY O	57.6827	-153.801	Y	10	3	30	31	33	51	52	Both	Neither	23	23	40	41	Both	Both	24	25	41	44	Both	Tanker Only
2012 02 29	366887110	SENECA	60.1189	-149.431	Y	12.32	4	30	28	31	46	49	Both	Neither	21	22	38	38	Both	Both	22	23	39	40	Both	Tanker Only
2012 11 14	367399110	SESOK	59.6163	-151.451	Y	11.351	2	30	12	13	15	15	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Tanker Only

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 05 23	367309280	NOKEA	61.1221	-150.786	Y	6	1	30	9	24	34	81	Both	Neither	21	28	46	58	Both	Both	24	33	49	65	Both	Tanker Only
2012 09 26	367309280	NOKEA	61.2463	-149.9	Y	6	1	30	9	20	24	77	Both	Neither	26	28	44	69	Both	Both	30	33	48	76	Both	Tanker Only
2012 11 07	367546770	Soveriegn	60.64	-151.365	Y	11.934	2	30	5	6	7	12	Both	Neither	11	12	11	14	Both	Both	13	15	13	17	Both	Tanker Only
2012 02 29	367428840	ETHAN B	60.1178	-149.437	Y	11.902	4	29	28	31	48	50	Both	Neither	22	22	39	40	Both	Both	23	24	40	41	Both	Tanker Only
2012 03 07	367428840	ETHAN B	57.7762	-152.414	Y	11.902	3	29	24	27	39	41	Both	Neither	18	18	30	31	Both	Both	19	19	31	33	Both	Tanker Only
2012 03 14	367428840	ETHAN B	57.7764	-152.414	Y	11.902	3	29	24	27	39	41	Both	Neither	18	18	30	31	Both	Both	19	19	31	33	Both	Tanker Only
2012 03 21	367428840	ETHAN B	57.7764	-152.414	Y	11.902	3	29	24	27	39	41	Both	Neither	18	18	30	31	Both	Both	19	19	31	33	Both	Tanker Only
2012 01 18	367322830	CHUKCHI SEA	59.8848	-148.641	Y	7	5	27	45	49	75	85	Both	Neither	34	35	61	63	Both	Both	35	37	63	67	Both	Neither
2012 01 25	367322830	CHUKCHI SEA	60.1196	-149.433	Y	7	4	27	46	50	77	87	Both	Neither	35	36	63	65	Both	Both	36	38	65	69	Both	Neither
2012 05 02	367322830	CHUKCHI SEA	59.5289	-150.581	Y	7	4	27	35	38	53	63	Both	Neither	23	24	39	41	Both	Both	24	26	40	45	Both	Neither
2012 08 08	367322830	CHUKCHI SEA	59.5289	-150.581	Y	7	4	27	35	38	53	63	Both	Neither	23	24	39	41	Both	Both	24	26	40	45	Both	Neither
2012 04 04	367098050	GRETCHEN H	60.1309	-152.207	Y	10	2	27	9	15	10	22	Both	Neither	10	11	10	11	Both	Both	12	14	13	15	Both	Neither
2012 04 25	367098050	GRETCHEN H	59.5069	-149.775	Y	10	4	27	27	29	43	44	Both	Neither	19	19	32	33	Both	Both	20	21	33	35	Both	Neither
2012 07 18	367098050	GRETCHEN H	60.5823	-151.846	Y	10	2	27	6	9	8	17	Both	Neither	11	13	11	14	Both	Both	14	16	14	17	Both	Neither
2012 07 25	367098050	GRETCHEN H	61.2249	-149.91	Y	10	1	27	7	11	17	19	Both	Neither	17	18	28	30	Both	Both	19	21	31	34	Both	Neither
2012 09 26	367098050	GRETCHEN H	59.5888	-151.505	Y	10	2	27	14	15	17	17	Both	Neither	6	6	6	6	Both	Both	8	9	8	10	Both	Neither
2012 11 14	367098050	GRETCHEN H	60.6762	-151.395	Y	10	2	27	5	7	7	14	Both	Neither	12	14	13	16	Both	Both	15	16	15	19	Both	Neither
2012 01 04	367103740	KRYSTAL SEA	60.7783	-148.669	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 01 04	367103740	KRYSTAL SEA	60.7783	-148.669	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 01 18	367103740	KRYSTAL SEA	60.773	-148.144	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 01 25	367103740	KRYSTAL SEA	60.7783	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 01	367103740	KRYSTAL SEA	60.7783	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 08	367103740	KRYSTAL SEA	60.7782	-148.698	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 22	367103740	KRYSTAL SEA	60.7784	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 02 29	367103740	KRYSTAL SEA	60.5529	-145.762	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 07	367103740	KRYSTAL SEA	60.7783	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 14	367103740	KRYSTAL SEA	60.7784	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 21	367103740	KRYSTAL SEA	60.7783	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 28	367103740	KRYSTAL SEA	60.7782	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 04 04	367103740	KRYSTAL SEA	60.7782	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 04 18	367103740	KRYSTAL SEA	60.7783	-148.669	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 04 25	367103740	KRYSTAL SEA	60.7782	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 02	367103740	KRYSTAL SEA	60.0632	-148.009	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 16	367103740	KRYSTAL SEA	60.7782	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 23	367103740	KRYSTAL SEA	60.5529	-145.762	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 30	367103740	KRYSTAL SEA	60.6256	-146.388	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 06	367103740	KRYSTAL SEA	60.7784	-148.669	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 13	367103740	KRYSTAL SEA	60.7783	-148.669	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 20	367103740	KRYSTAL SEA	60.5529	-145.762	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 27	367103740	KRYSTAL SEA	60.7783	-148.669	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 07 11	367103740	KRYSTAL SEA	60.7866	-148.277	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 07 18	367103740	KRYSTAL SEA	60.6144	-146.303	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 07 25	367103740	KRYSTAL SEA	60.5529	-145.762	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 01	367103740	KRYSTAL SEA	60.6282	-146.415	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 08	367103740	KRYSTAL SEA	60.0631	-148.009	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 15	367103740	KRYSTAL SEA	60.6444	-146.554	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 08 22	367103740	KRYSTAL SEA	60.5529	-145.762	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 29	367103740	KRYSTAL SEA	60.5529	-145.762	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 05	367103740	KRYSTAL SEA	60.5529	-145.762	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 12	367103740	KRYSTAL SEA	60.7782	-148.669	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 19	367103740	KRYSTAL SEA	60.7978	-146.846	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 26	367103740	KRYSTAL SEA	60.7784	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 05	367103740	KRYSTAL SEA	60.5529	-145.762	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 12	367103740	KRYSTAL SEA	60.7783	-148.669	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 19	367103740	KRYSTAL SEA	60.8	-146.848	Y	11.776	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 25	367103740	KRYSTAL SEA	60.7784	-148.669	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 11 07	367103740	KRYSTAL SEA	60.7784	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 11 14	367103740	KRYSTAL SEA	60.7783	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 11 21	367103740	KRYSTAL SEA	60.7783	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 11 28	367103740	KRYSTAL SEA	60.7783	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 05	367103740	KRYSTAL SEA	60.7783	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 12	367103740	KRYSTAL SEA	60.0851	-149.356	Y	11.776	4	27	28	31	48	50	Both	Neither	22	22	39	39	Both	Both	23	24	40	41	Both	Neither
2012 12 19	367103740	KRYSTAL SEA	60.0875	-149.356	Y	11.776	4	27	28	31	48	50	Both	Neither	22	22	39	40	Both	Both	23	24	40	41	Both	Neither
2012 12 26	367103740	KRYSTAL SEA	60.7783	-148.699	Y	11.776	7	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 30	367103880	TRIUMPH	57.6155	-153.897	Y	12	3	27	27	30	44	47	Both	Neither	20	21	36	36	Both	Both	21	22	37	38	Both	Neither
2012 06 06	367103880	TRIUMPH	60.1182	-149.426	Y	12	4	27	28	31	47	50	Both	Neither	22	22	39	39	Both	Both	23	24	40	41	Both	Neither
2012 09 12	367103880	TRIUMPH	57.9853	-152.054	Y	12	3	27	22	25	34	37	Both	Neither	16	16	26	26	Both	Both	16	17	27	28	Both	Neither
2012 09 26	367103880	TRIUMPH	60.3979	-147.904	Y	12	6	27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 12	367103880	TRIUMPH	57.9957	-152.104	Y	12	3	27	22	25	34	37	Both	Neither	16	16	26	26	Both	Both	16	17	27	28	Both	Neither
2012 11 07	367103880	TRIUMPH	60.1198	-149.435	Y	12	4	27	28	31	47	50	Both	Neither	22	22	39	39	Both	Both	23	24	40	41	Both	Neither
2012 11 14	367103880	TRIUMPH	59.6062	-151.415	Y	12	2	27	12	13	14	15	Both	Neither	5	5	5	6	Both	Both	7	9	8	9	Both	Neither
2012 06 27	367162920	SAM B	61.2293	-149.9	Y	11.763	1	26	7	10	15	18	Both	Neither	15	16	24	27	Both	Both	17	18	27	29	Both	Neither
2012 07 11	367162920	SAM B	61.1736	-150.159	Y	11.763	1	26	7	10	16	21	Both	Neither	14	16	26	29	Both	Both	16	18	28	32	Both	Neither
2012 09 05	367162920	SAM B	60.7545	-151.307	Y	11.763	1	26	5	6	6	10	Both	Neither	11	11	12	14	Both	Both	13	14	14	16	Both	Neither
2012 09 12	367162920	SAM B	59.6148	-151.448	Y	11.763	2	26	12	13	14	15	Both	Neither	5	6	5	6	Both	Both	8	9	8	9	Both	Neither
2012 09 19	367162920	SAM B	60.7766	-151.72	Y	11.763	1	26	6	7	10	18	Both	Neither	12	13	15	19	Both	Both	13	15	17	22	Both	Neither
2012 09 26	367162920	SAM B	61.2297	-149.899	Y	11.763	1	26	7	10	15	18	Both	Neither	15	16	25	27	Both	Both	17	18	27	29	Both	Neither
2012 10 05	367162920	SAM B	60.7545	-151.307	Y	11.763	1	26	5	6	6	10	Both	Neither	11	11	12	14	Both	Both	13	14	14	16	Both	Neither
2012 10 12	367162920	SAM B	59.6148	-151.448	Y	11.763	2	26	12	13	14	15	Both	Neither	5	6	5	6	Both	Both	8	9	8	9	Both	Neither
2012 10 19	367162920	SAM B	60.7767	-151.72	Y	11.763	1	26	6	7	10	18	Both	Neither	12	13	15	19	Both	Both	13	15	17	22	Both	Neither
2012 11 07	367162920	SAM B	61.2292	-149.901	Y	11.763	1	26	7	10	15	18	Both	Neither	15	16	24	27	Both	Both	17	18	27	29	Both	Neither
2012 11 14	367162920	SAM B	61.2107	-150.035	Y	11.763	1	26	7	9	14	17	Both	Neither	15	15	24	25	Both	Both	17	18	26	28	Both	Neither
2012 02 22	367058210	ISLAND SCOUT	60.1697	-147.666	Y	12.376	6	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 23	367058210	ISLAND SCOUT	61.2386	-149.89	Y	12.376	1	25	7	9	14	18	Both	Neither	15	15	24	26	Both	Both	16	17	26	29	Both	Neither
2012 05 30	367058210	ISLAND SCOUT	60.2957	-147.974	Y	12.376	6	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 27	367058210	ISLAND SCOUT	60.9903	-151.064	Y	12.376	1	25	6	8	14	19	Both	Neither	12	14	19	23	Both	Both	13	16	21	25	Both	Neither
2012 07 25	367058210	ISLAND SCOUT	61.2248	-149.91	Y	12.376	1	25	7	9	14	17	Both	Neither	15	15	23	25	Both	Both	16	17	25	28	Both	Neither
2012 09 26	367058210	ISLAND SCOUT	61.2393	-149.889	Y	12.376	1	25	7	9	14	18	Both	Neither	15	15	24	26	Both	Both	16	17	26	29	Both	Neither
2012 11 14	366379000	Cavek	60.1159	-149.428	Y	10	4	24	33	36	57	57	Both	Neither	25	26	46	46	Both	Both	26	28	47	49	Both	Neither
2012 03 07	367484440	MILLIE CRUZ	60.0661	-149.402	Y	10	4	24	33	35	56	56	Both	Neither	25	25	45	46	Both	Both	26	27	46	48	Both	Neither
2012 03 14	367484440	MILLIE CRUZ	59.605	-151.422	Y	10	2	24	14	14	16	16	Both	Neither	6	6	6	6	Both	Both	8	10	8	10	Both	Neither
2012 04 18	367484440	MILLIE CRUZ	59.615	-151.448	Y	10	2	24	14	14	16	16	Both	Neither	6	6	6	6	Both	Both	8	10	8	10	Both	Neither

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 05 16	367484440	MILLIE CRUZ	61.2524	-149.881	Y	10	1	24	7	12	18	21	Both	Neither	17	18	29	32	Both	Both	19	21	31	36	Both	Neither
2012 05 23	367484440	MILLIE CRUZ	61.1736	-150.159	Y	10	1	24	8	12	18	23	Both	Neither	16	18	30	35	Both	Both	19	22	32	38	Both	Neither
2012 05 30	367484440	MILLIE CRUZ	61.2355	-149.893	Y	10	1	24	7	11	17	20	Both	Neither	17	18	28	31	Both	Both	19	21	31	35	Both	Neither
2012 06 06	367484440	MILLIE CRUZ	61.1653	-150.08	Y	10	1	24	7	12	18	21	Both	Neither	16	18	29	33	Both	Both	19	21	31	36	Both	Neither
2012 06 13	367484440	MILLIE CRUZ	61.1662	-150.102	Y	10	1	24	7	12	18	22	Both	Neither	16	18	29	33	Both	Both	19	21	31	36	Both	Neither
2012 06 20	367484440	MILLIE CRUZ	61.1685	-150.123	Y	10	1	24	7	12	18	22	Both	Neither	16	18	29	34	Both	Both	19	21	32	37	Both	Neither
2012 06 27	367484440	MILLIE CRUZ	61.1688	-150.154	Y	10	1	24	8	12	18	23	Both	Neither	16	18	30	35	Both	Both	19	22	32	38	Both	Neither
2012 07 11	367484440	MILLIE CRUZ	61.2684	-149.914	Y	10	1	24	7	12	18	21	Both	Neither	17	18	29	33	Both	Both	19	21	31	36	Both	Neither
2012 07 18	367484440	MILLIE CRUZ	61.2684	-149.914	Y	10	1	24	7	12	18	21	Both	Neither	17	18	29	33	Both	Both	19	21	31	36	Both	Neither
2012 07 25	367484440	MILLIE CRUZ	61.2684	-149.914	Y	10	1	24	7	12	18	21	Both	Neither	17	18	29	33	Both	Both	19	21	31	36	Both	Neither
2012 08 01	367484440	MILLIE CRUZ	61.2684	-149.914	Y	10	1	24	7	12	18	21	Both	Neither	17	18	29	33	Both	Both	19	21	31	36	Both	Neither
2012 09 19	367484440	MILLIE CRUZ	61.2921	-149.916	Y	10	1	24	8	12	18	23	Both	Neither	18	18	29	34	Both	Both	20	21	32	38	Both	Neither
2012 09 26	367484440	MILLIE CRUZ	61.2683	-149.914	Y	10	1	24	7	12	18	21	Both	Neither	17	18	29	33	Both	Both	19	21	31	36	Both	Neither
2012 10 19	367484440	MILLIE CRUZ	61.2921	-149.916	Y	10	1	24	8	12	18	23	Both	Neither	18	18	29	34	Both	Both	20	21	32	38	Both	Neither
2012 10 25	367484440	MILLIE CRUZ	61.0096	-151.166	Y	10	1	24	6	9	16	22	Both	Neither	13	16	23	25	Both	Both	16	18	26	28	Both	Neither
2012 11 07	367484440	MILLIE CRUZ	59.6151	-151.448	Y	10	2	24	14	14	16	16	Both	Neither	6	6	6	6	Both	Both	8	10	8	10	Both	Neither
2012 11 14	367484440	MILLIE CRUZ	59.6172	-151.451	Y	10	2	24	14	14	16	16	Both	Neither	6	6	6	6	Both	Both	8	10	8	10	Both	Neither
2012 04 18	367105510	HENRY BRUSCO	57.7316	-152.523	Y	11.646	3	24	25	28	41	43	Both	Neither	19	19	32	33	Both	Both	19	20	33	34	Both	Neither
2012 04 25	367105510	HENRY BRUSCO	58.0899	-151.614	Y	11.646	4	24	22	25	34	36	Both	Neither	15	15	25	25	Both	Both	16	17	26	27	Both	Neither
2012 09 19	367105510	HENRY BRUSCO	61.1216	-146.307	Y	11.646	6	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 09 26	367105510	HENRY BRUSCO	61.1216	-146.307	Y	11.646	6	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 10 19	367105510	HENRY BRUSCO	61.1216	-146.307	Y	11.646	6	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 12 12	367105510	HENRY BRUSCO	60.119	-149.426	Y	11.646	4	24	29	32	49	51	Both	Neither	22	23	40	40	Both	Both	23	24	41	42	Both	Neither
2012 12 19	367105510	HENRY BRUSCO	57.7768	-152.414	Y	11.646	3	24	25	28	40	42	Both	Neither	18	18	31	31	Both	Both	19	20	32	33	Both	Neither
2012 12 26	367105510	HENRY BRUSCO	57.7315	-152.524	Y	11.646	3	24	25	28	41	43	Both	Neither	19	19	32	33	Both	Both	19	20	33	34	Both	Neither
2012 06 27	366983840	LOIS H	61.1216	-146.31	Y	11.646	6	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 07 25	366983840	LOIS H	57.7752	-154.122	Y	11.646	3	24	27	30	45	47	Both	Neither	21	21	36	36	Both	Both	21	22	37	38	Both	Neither
2012 09 26	366983840	LOIS H	59.6049	-151.422	Y	11.646	2	24	12	13	14	15	Both	Neither	5	6	5	6	Both	Both	8	9	8	9	Both	Neither
2012 12 12	366983840	LOIS H	57.5574	-153.939	Y	11.646	3	24	28	31	47	49	Both	Neither	21	22	38	38	Both	Both	22	23	38	40	Both	Neither
2012 12 26	366983840	LOIS H	60.5481	-145.768	Y	11.646	6	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 03 28	303496000	SAMSON MARINER	57.7688	-152.444	Y	11.58	3	24	25	28	40	43	Both	Neither	18	19	31	32	Both	Both	19	20	32	34	Both	Neither
2012 05 16	303496000	SAMSON MARINER	60.1189	-149.426	Y	11.58	4	24	29	32	49	51	Both	Neither	23	23	40	41	Both	Both	23	24	41	42	Both	Neither
2012 05 23	303496000	SAMSON MARINER	57.7318	-152.523	Y	11.58	3	24	25	28	41	43	Both	Neither	19	19	32	33	Both	Both	19	20	33	35	Both	Neither
2012 06 13	303496000	SAMSON MARINER	57.7309	-152.524	Y	11.58	3	24	25	28	41	43	Both	Neither	19	19	32	33	Both	Both	20	20	33	35	Both	Neither
2012 06 27	303496000	SAMSON MARINER	57.9126	-153.836	Y	11.58	3	24	26	29	42	44	Both	Neither	19	19	33	33	Both	Both	20	21	34	35	Both	Neither
2012 07 11	303496000	SAMSON MARINER	57.673	-153.96	Y	11.58	3	24	27	30	45	48	Both	Neither	21	21	36	37	Both	Both	22	22	37	39	Both	Neither
2012 08 01	303496000	SAMSON MARINER	59.8486	-149.429	Y	11.58	4	24	27	30	45	47	Both	Neither	21	21	36	36	Both	Both	21	22	37	38	Both	Neither
2012 09 12	303496000	SAMSON MARINER	58.2821	-151.391	Y	11.58	4	24	21	24	31	34	Both	Neither	14	14	22	23	Both	Both	15	16	23	25	Both	Neither
2012 09 19	303496000	SAMSON MARINER	60.1189	-149.426	Y	11.58	4	24	29	32	49	51	Both	Neither	23	23	40	41	Both	Both	23	24	41	42	Both	Neither
2012 10 12	303496000	SAMSON MARINER	58.2621	-151.423	Y	11.58	4	24	21	24	32	34	Both	Neither	14	14	23	23	Both	Both	15	16	23	25	Both	Neither
2012 10 19	303496000	SAMSON MARINER	60.1189	-149.426	Y	11.58	4	24	29	32	49	51	Both	Neither	23	23	40	41	Both	Both	23	24	41	42	Both	Neither
2012 11 07	303496000	SAMSON MARINER	57.7323	-152.522	Y	11.58	3	24	25	28	41	43	Both	Neither	19	19	32	33	Both	Both	19	20	33	34	Both	Neither
2012 11 28	303496000	SAMSON MARINER	56.9228	-155.988	Y	11.58	3	24	37	40	66	68	Both	Neither	31	31	57	57	Both	Both	31	32	57	59	Both	Neither
2012 02 22	366889340	POINT OLIKTOK	60.0151	-149.359	Y	6.3	4	24	49	56	82	94	Both	Neither	36	38	67	68	Both	Both	38	41	68	73	Both	Neither
2012 02 29	366889340	POINT OLIKTOK	60.1191	-149.427	Y	6.3	4	24	50	58	85	97	Both	Neither	38	39	70	72	Both	Both	39	42	71	76	Both	Neither
2012 03 14	366889340	POINT OLIKTOK	60.1188	-149.431	Y	6.3	4	24	50	58	85	97	Both	Neither	38	39	70	72	Both	Both	39	42	71	76	Both	Neither

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 03 21	366889340	POINT OLIKTOK	60.1187	-149.432	Y	6.3	4	24	50	58	85	97	Both	Neither	38	39	70	72	Both	Both	39	42	71	76	Both	Neither
2012 03 28	366889340	POINT OLIKTOK	60.1189	-149.429	Y	6.3	4	24	50	58	85	97	Both	Neither	38	39	70	72	Both	Both	39	42	71	76	Both	Neither
2012 04 04	366889340	POINT OLIKTOK	60.1172	-149.431	Y	6.3	4	24	50	58	85	97	Both	Neither	38	39	70	72	Both	Both	39	42	71	76	Both	Neither
2012 04 18	366889340	POINT OLIKTOK	60.1172	-149.431	Y	6.3	4	24	50	58	85	97	Both	Neither	38	39	70	72	Both	Both	39	42	71	76	Both	Neither
2012 04 25	366889340	POINT OLIKTOK	60.1172	-149.431	Y	6.3	4	24	50	58	85	97	Both	Neither	38	39	70	72	Both	Both	39	42	71	76	Both	Neither
2012 05 02	366889340	POINT OLIKTOK	61.1215	-146.307	Y	6.3	6	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 16	366889340	POINT OLIKTOK	61.1132	-146.431	Y	6.3	6	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 23	366889340	POINT OLIKTOK	61.1242	-146.36	Y	6.3	6	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 30	366889340	POINT OLIKTOK	61.1242	-146.359	Y	6.3	6	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 06	366889340	POINT OLIKTOK	61.1154	-146.373	Y	6.3	6	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 13	366889340	POINT OLIKTOK	61.1218	-146.307	Y	6.3	6	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 20	366889340	POINT OLIKTOK	61.1239	-146.36	Y	6.3	6	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 06 27	366889340	POINT OLIKTOK	61.124	-146.36	Y	6.3	6	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 08 08	366889340	POINT OLIKTOK	61.1216	-146.307	Y	6.3	6	24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 11 28	366889340	POINT OLIKTOK	60.119	-149.429	Y	6.3	4	24	50	58	85	97	Both	Neither	38	39	70	72	Both	Both	39	42	71	76	Both	Neither
2012 12 05	366889340	POINT OLIKTOK	60.119	-149.429	Y	6.3	4	24	50	58	85	97	Both	Neither	38	39	70	72	Both	Both	39	42	71	76	Both	Neither
2012 12 12	366889340	POINT OLIKTOK	60.1192	-149.429	Y	6.3	4	24	50	58	85	97	Both	Neither	38	39	70	72	Both	Both	39	42	71	76	Both	Neither
2012 12 19	366889340	POINT OLIKTOK	60.1178	-149.431	Y	6.3	4	24	50	58	85	97	Both	Neither	38	39	70	72	Both	Both	39	42	71	76	Both	Neither
2012 09 05	367035230	NORMAN O	61.2684	-149.914	Y	11.446	1	21	7	10	15	20	Both	Neither	16	16	26	29	Both	Both	18	19	28	31	Both	Neither
2012 09 12	367035230	NORMAN O	59.326	-152.04	Y	11.446	2	21	12	15	15	17	Both	Neither	6	6	6	6	Both	Both	6	7	6	8	Both	Neither
2012 09 19	367035230	NORMAN O	60.6553	-151.382	Y	11.446	2	21	5	6	7	12	Both	Neither	11	13	12	14	Both	Both	13	15	14	17	Both	Neither
2012 09 26	367035230	NORMAN O	59.6042	-151.422	Y	11.446	2	21	12	13	14	15	Both	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Neither
2012 10 05	367035230	NORMAN O	61.2684	-149.914	Y	11.446	1	21	7	10	15	20	Both	Neither	16	16	26	29	Both	Both	18	19	28	31	Both	Neither
2012 10 12	367035230	NORMAN O	59.3061	-152.033	Y	11.446	2	21	12	15	15	17	Both	Neither	6	6	6	6	Both	Both	6	7	7	8	Both	Neither
2012 10 19	367035230	NORMAN O	60.652	-151.379	Y	11.446	2	21	5	6	7	12	Both	Neither	11	13	12	14	Both	Both	13	15	14	17	Both	Neither
2012 10 25	367035230	NORMAN O	60.0874	-149.355	Y	11.446	4	21	29	32	49	51	Both	Neither	23	23	40	41	Both	Both	23	24	41	42	Both	Neither
2012 11 07	367035230	NORMAN O	60.1193	-149.433	Y	11.446	4	21	29	32	50	52	Both	Neither	23	23	40	41	Both	Both	24	24	41	43	Both	Neither
2012 11 14	367035230	NORMAN O	60.1196	-149.434	Y	11.446	4	21	29	32	50	52	Both	Neither	23	23	40	41	Both	Both	24	25	41	43	Both	Neither
2012 11 21	367035230	NORMAN O	60.1164	-149.432	Y	11.446	4	21	29	32	49	52	Both	Neither	23	23	40	41	Both	Both	24	24	41	43	Both	Neither
2012 11 28	367035230	NORMAN O	60.1181	-149.434	Y	11.446	4	21	29	32	50	52	Both	Neither	23	23	40	41	Both	Both	24	24	41	43	Both	Neither
2012 12 05	367035230	NORMAN O	60.1199	-149.434	Y	11.446	4	21	29	32	50	52	Both	Neither	23	23	40	41	Both	Both	24	25	41	43	Both	Neither
2012 12 12	367035230	NORMAN O	60.7781	-148.691	Y	11.446	7	21	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 01 04	367304650	GLACIER WIND	61.2251	-149.908	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 01 04	367304650	GLACIER WIND	61.2251	-149.908	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 01 18	367304650	GLACIER WIND	61.2252	-149.908	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 01 25	367304650	GLACIER WIND	61.2275	-149.908	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 02 01	367304650	GLACIER WIND	61.2251	-149.91	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 02 08	367304650	GLACIER WIND	61.2251	-149.908	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 02 15	367304650	GLACIER WIND	61.2254	-149.908	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 02 22	367304650	GLACIER WIND	61.2251	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 02 29	367304650	GLACIER WIND	61.2251	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 03 07	367304650	GLACIER WIND	61.2252	-149.908	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 03 14	367304650	GLACIER WIND	61.2252	-149.908	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 03 21	367304650	GLACIER WIND	61.2368	-149.892	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	22	22	Both	Both	15	15	24	25	Both	Neither
2012 03 28	367304650	GLACIER WIND	61.2252	-149.908	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 04 04	367304650	GLACIER WIND	61.2252	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 04 18	367304650	GLACIER WIND	61.2251	-149.908	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 04 25	367304650	GLACIER WIND	61.2252	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 05 02	367304650	GLACIER WIND	61.2251	-149.908	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 05 16	367304650	GLACIER WIND	61.2251	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 05 23	367304650	GLACIER WIND	61.2252	-149.91	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 05 30	367304650	GLACIER WIND	61.2252	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 06 06	367304650	GLACIER WIND	61.2329	-149.904	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	22	22	Both	Both	15	15	24	25	Both	Neither
2012 06 13	367304650	GLACIER WIND	61.1738	-150.159	N	11.902	1	20	4	6	10	13	Both	Neither	12	13	19	20	Both	Both	14	15	21	23	Both	Neither
2012 06 20	367304650	GLACIER WIND	61.2446	-149.888	N	11.902	1	20	5	8	12	14	Both	Neither	13	13	22	22	Both	Both	15	15	24	25	Both	Neither
2012 06 27	367304650	GLACIER WIND	61.2251	-149.91	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 07 11	367304650	GLACIER WIND	61.2251	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 07 18	367304650	GLACIER WIND	61.2415	-149.888	N	11.902	1	20	5	8	12	14	Both	Neither	13	13	22	22	Both	Both	15	15	24	25	Both	Neither
2012 07 25	367304650	GLACIER WIND	61.225	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 08 01	367304650	GLACIER WIND	61.2427	-149.89	N	11.902	1	20	5	8	12	14	Both	Neither	13	13	22	22	Both	Both	15	15	24	25	Both	Neither
2012 08 08	367304650	GLACIER WIND	61.2251	-149.908	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 08 15	367304650	GLACIER WIND	61.2246	-149.91	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 08 29	367304650	GLACIER WIND	61.2252	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 09 05	367304650	GLACIER WIND	61.2249	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 09 12	367304650	GLACIER WIND	61.232	-149.899	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	22	22	Both	Both	15	15	24	25	Both	Neither
2012 09 19	367304650	GLACIER WIND	61.2303	-149.907	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 09 26	367304650	GLACIER WIND	61.2375	-149.902	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	22	22	Both	Both	15	15	24	25	Both	Neither
2012 10 05	367304650	GLACIER WIND	61.2249	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 10 12	367304650	GLACIER WIND	61.232	-149.899	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	22	22	Both	Both	15	15	24	25	Both	Neither
2012 10 19	367304650	GLACIER WIND	61.2278	-149.91	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 10 25	367304650	GLACIER WIND	57.7751	-152.416	N	11.902	3	20	17	20	22	23	Both	Neither	12	12	14	14	Both	Both	9	9	11	11	Both	Neither
2012 11 07	367304650	GLACIER WIND	61.242	-149.887	N	11.902	1	20	5	8	12	14	Both	Neither	13	13	22	22	Both	Both	15	15	24	25	Both	Neither
2012 11 14	367304650	GLACIER WIND	61.2248	-149.911	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	24	Both	Neither
2012 11 21	367304650	GLACIER WIND	61.225	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 11 28	367304650	GLACIER WIND	61.225	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 12 05	367304650	GLACIER WIND	61.2249	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 12 12	367304650	GLACIER WIND	61.225	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 12 19	367304650	GLACIER WIND	61.225	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 12 26	367304650	GLACIER WIND	61.2249	-149.909	N	11.902	1	20	5	7	12	14	Both	Neither	13	13	21	22	Both	Both	15	15	24	25	Both	Neither
2012 06 13	367338330	JUNIOR	60.1184	-149.438	Y	11.343	4	19	30	33	50	52	Both	Neither	23	23	41	41	Both	Both	24	25	42	43	Both	Neither
2012 12 12	367338330	JUNIOR	60.1184	-149.438	Y	11.343	4	19	30	33	50	52	Both	Neither	23	23	41	41	Both	Both	24	25	42	43	Both	Neither
2012 01 25	367115480	REDOUBT	59.627	-151.424	Y	10	2	18	13	14	16	16	Neither	Neither	5	6	5	6	Both	Both	8	10	8	11	Both	Neither
2012 02 08	367115480	REDOUBT	59.6017	-151.418	Y	10	2	18	14	14	16	16	Neither	Neither	6	6	6	6	Both	Both	8	10	8	10	Both	Neither
2012 12 12	367115480	REDOUBT	59.6042	-151.422	Y	10	2	18	14	14	16	16	Neither	Neither	6	6	6	6	Both	Both	8	10	8	10	Both	Neither
2012 12 19	367115480	REDOUBT	59.6152	-151.394	Y	10	2	18	13	14	16	16	Neither	Neither	5	6	6	6	Both	Both	8	10	8	11	Both	Neither
2012 08 22	303295000	MALOLO	58.1647	-152.579	Y	8	3	17	34	35	54	61	Neither	Neither	24	24	41	43	Both	Both	25	27	42	46	Both	Neither
2012 04 25	366798280	CROSS POINT	57.3166	-155.828	Y	11.009	3	14	36	39	63	65	Neither	Neither	29	30	54	54	Both	Both	30	31	55	56	Both	Neither
2012 06 06	367112310	AUGUSTINE	59.664	-151.44	Y	10.95	2	13	13	14	15	16	Neither	Neither	6	6	6	6	Both	Both	8	9	8	10	Both	Neither
2012 06 27	367112310	AUGUSTINE	59.6241	-151.374	Y	10.95	2	13	12	14	15	15	Neither	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Neither
2012 12 19	367112310	AUGUSTINE	59.6143	-151.395	Y	10.95	2	13	13	14	15	15	Neither	Neither	5	6	5	6	Both	Both	8	9	8	10	Both	Neither
2012 05 30	366950140	AVIK	60.3899	-145.723	Y	11.351	6	12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 05 02	366888910	SIKU	60.4712	-147.288	Y	12	6	12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 08 08	366888910	SIKU	60.4562	-147.307	Y	12	6	12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012 11 28	366888910	SIKU	57.9618	-153.123	Y	12	3	12	23	26	36	39	Neither	Neither	17	17	28	29	Both	Both	17	18	29	30	Both	Neither
2012 12 05	366888910	SIKU	60.0851	-149.355	Y	12	4	12	28	31	47	49	Neither	Neither	22	22	38	39	Both	Both	22	23	39	41	Both	Neither
2012 04 18	367526000	SINUK	59.9268	-152.045	Y	12	2	11	9	14	11	19	Neither	Neither	8	8	8	8	Both	Both	9	10	10	11	Both	Neither
2012 05 02	367305430	COSMIC WIND	61.1737	-150.159	Y	11.168	1	9	7	11	16	22	Neither	Neither	15	17	27	31	Both	Both	17	19	29	33	Both	Neither
2012 05 16	367305430	COSMIC WIND	61.2292	-149.901	Y	11.168	1	9	7	10	15	19	Neither	Neither	16	16	26	28	Both	Both	18	19	28	30	Both	Neither
2012 05 23	367305430	COSMIC WIND	61.2248	-149.909	Y	11.168	1	9	7	10	15	18	Neither	Neither	16	16	26	28	Both	Both	18	19	28	30	Both	Neither
2012 05 30	367305430	COSMIC WIND	61.1738	-150.16	Y	11.168	1	9	7	11	16	22	Neither	Neither	15	17	27	31	Both	Both	17	19	29	33	Both	Neither
2012 06 06	367305430	COSMIC WIND	61.1668	-150.082	Y	11.168	1	9	7	10	16	20	Neither	Neither	15	17	26	29	Both	Both	17	19	29	32	Both	Neither
2012 06 06	367305430	COSMIC WIND	57.4805	-154.824	Y	11.168	3	9	32	35	54	56	Neither	Neither	25	25	45	46	Both	Both	26	27	46	47	Both	Neither
2012 06 13	367305430	COSMIC WIND	61.1676	-150.099	Y	11.168	1	9	7	10	16	20	Neither	Neither	15	17	26	30	Both	Both	17	19	29	32	Both	Neither
2012 06 20	367305430	COSMIC WIND	61.1678	-150.112	Y	11.168	1	9	7	11	16	21	Neither	Neither	15	17	26	30	Both	Both	17	19	29	32	Both	Neither
2012 06 27	367305430	COSMIC WIND	61.1691	-150.128	Y	11.168	1	9	7	11	16	21	Neither	Neither	15	17	27	30	Both	Both	17	19	29	33	Both	Neither
2012 07 25	367305430	COSMIC WIND	61.1734	-150.159	Y	11.168	1	9	7	11	16	22	Neither	Neither	15	17	27	31	Both	Both	17	19	29	33	Both	Neither
2012 08 08	367305430	COSMIC WIND	61.1737	-150.16	Y	11.168	1	9	7	11	16	22	Neither	Neither	15	17	27	31	Both	Both	17	19	29	33	Both	Neither
2012 08 15	367305430	COSMIC WIND	61.2245	-149.91	Y	11.168	1	9	7	10	15	18	Neither	Neither	16	16	25	28	Both	Both	18	19	28	30	Both	Neither
2012 09 05	367305430	COSMIC WIND	57.7749	-152.413	Y	11.168	3	9	26	28	41	43	Neither	Neither	19	19	32	33	Both	Both	19	20	33	35	Both	Neither
2012 09 12	367305430	COSMIC WIND	61.042	-151.164	Y	11.168	1	9	6	9	16	20	Neither	Neither	13	15	22	24	Both	Both	15	17	24	27	Both	Neither
2012 09 19	367305430	COSMIC WIND	61.2246	-149.91	Y	11.168	1	9	7	10	15	18	Neither	Neither	16	16	25	28	Both	Both	18	19	28	30	Both	Neither
2012 10 12	367305430	COSMIC WIND	61.042	-151.164	Y	11.168	1	9	6	9	16	20	Neither	Neither	13	15	22	24	Both	Both	15	17	24	27	Both	Neither
2012 10 19	367305430	COSMIC WIND	61.2246	-149.91	Y	11.168	1	9	7	10	15	18	Neither	Neither	16	16	25	28	Both	Both	18	19	28	30	Both	Neither
2012 10 25	367305430	COSMIC WIND	61.2246	-149.91	Y	11.168	1	9	7	10	15	18	Neither	Neither	16	16	25	28	Both	Both	18	19	28	30	Both	Neither
2012 11 07	367305430	COSMIC WIND	61.2251	-149.907	Y	11.168	1	9	7	10	15	18	Neither	Neither	16	16	26	28	Both	Both	18	19	28	30	Both	Neither
2012 11 14	367305430	COSMIC WIND	61.2249	-149.909	Y	11.168	1	9	7	10	15	18	Neither	Neither	16	16	26	28	Both	Both	18	19	28	30	Both	Neither
2012 06 06	366673090	Diane H	57.2494	-155.329	Y	8.5	3	7	45	46	77	83	Neither	Neither	35	36	65	66	Both	Both	36	38	66	69	Both	Neither
2012 05 16	367487620	CAPT. FRANK MOODY	60.1179	-149.431	Y	11	4	0	31	33	51	53	N/A	N/A	24	24	42	43	N/A	N/A	24	25	43	45	N/A	N/A
2012 05 02	366951660	GLADYS M	61.2427	-149.887	Y	9	1	0	8	13	18	25	N/A	N/A	19	20	31	36	N/A	N/A	21	23	33	40	N/A	N/A
2012 05 16	366951660	GLADYS M	61.2517	-149.882	Y	9	1	0	8	13	19	25	N/A	N/A	19	20	31	36	N/A	N/A	21	24	34	41	N/A	N/A
2012 05 23	366951660	GLADYS M	61.2434	-149.888	Y	9	1	0	8	13	18	25	N/A	N/A	19	20	31	36	N/A	N/A	21	23	33	40	N/A	N/A
2012 05 30	366951660	GLADYS M	61.2198	-149.941	Y	9	1	0	7	12	17	21	N/A	N/A	19	19	30	32	N/A	N/A	21	23	32	37	N/A	N/A
2012 06 06	366951660	GLADYS M	61.2372	-149.891	Y	9	1	0	8	13	18	24	N/A	N/A	19	20	31	35	N/A	N/A	21	23	33	40	N/A	N/A
2012 06 13	366951660	GLADYS M	61.2193	-149.941	Y	9	1	0	7	12	17	21	N/A	N/A	19	19	30	32	N/A	N/A	21	23	32	37	N/A	N/A
2012 06 20	366951660	GLADYS M	61.2202	-149.937	Y	9	1	0	7	12	17	21	N/A	N/A	19	19	30	33	N/A	N/A	21	23	32	37	N/A	N/A
2012 06 27	366951660	GLADYS M	61.2192	-149.941	Y	9	1	0	7	12	17	21	N/A	N/A	19	19	30	32	N/A	N/A	21	23	32	37	N/A	N/A
2012 07 11	366951660	GLADYS M	61.2377	-149.892	Y	9	1	0	8	13	18	24	N/A	N/A	19	20	31	35	N/A	N/A	21	23	33	40	N/A	N/A
2012 07 18	366951660	GLADYS M	61.2362	-149.893	Y	9	1	0	8	13	18	24	N/A	N/A	19	20	31	35	N/A	N/A	21	23	33	40	N/A	N/A
2012 07 25	366951660	GLADYS M	61.2189	-149.941	Y	9	1	0	7	12	17	21	N/A	N/A	19	19	30	32	N/A	N/A	21	23	32	37	N/A	N/A
2012 08 01	366951660	GLADYS M	61.2366	-149.892	Y	9	1	0	8	13	18	24	N/A	N/A	19	20	31	35	N/A	N/A	21	23	33	40	N/A	N/A
2012 08 08	366951660	GLADYS M	61.2433	-149.886	Y	9	1	0	8	13	18	25	N/A	N/A	19	20	31	36	N/A	N/A	21	24	33	40	N/A	N/A
2012 08 15	366951660	GLADYS M	61.235	-149.895	Y	9	1	0	8	13	18	24	N/A	N/A	19	20	31	35	N/A	N/A	21	23	33	40	N/A	N/A
2012 08 22	366951660	GLADYS M	61.2357	-149.893	Y	9	1	0	8	13	18	24	N/A	N/A	19	20	31	35	N/A	N/A	21	23	33	40	N/A	N/A
2012 08 29	366951660	GLADYS M	61.2355	-149.893	Y	9	1	0	8	13	18	24	N/A	N/A	19	20	31	35	N/A	N/A	21	23	33	40	N/A	N/A
2012 09 05	366951660	GLADYS M	61.2528	-149.89	Y	9	1	0	8	13	18	25	N/A	N/A	19	20	31	36	N/A	N/A	21	24	33	41	N/A	N/A
2012 09 12	366951660	GLADYS M	61.2516	-149.903	Y	9	1	0	8	13	18	25	N/A	N/A	19	20	31	36	N/A	N/A	21	23	33	40	N/A	N/A
2012 09 19	366951660	GLADYS M	61.2258	-149.923	Y	9	1	0	7	13	18	22	N/A	N/A	19	19	31	33	N/A	N/A	21	23	33	38	N/A	N/A
2012 09 26	366951660	GLADYS M	61.2425	-149.889	Y	9	1	0	8	13	18	25	N/A	N/A	19	20	31	36	N/A	N/A	21	23	33	40	N/A	N/A

									Upper Cook Inlet Incident						Kachemak Bay Incident						Kennedy Entrance Incident					
									Total Time To Incident				Capability		Total Time To Incident				Capability		Total Time To Incident				Capability	
						Environmental Condition:			50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th	50th	50th	90th	90th	50th	90th
						Current: With or Against (Ag.)			With	Ag.	With	Ag.			With	Ag.	With	Ag.			With	Ag.	With	Ag.		
Date	MMSI/ID #	Name	Latitude	Longitude	Towing?	Max Speed	Zone #	Bollard Pull (MT)	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel	(hr)	(hr)	(hr)	(hr)	vessel	vessel
2012 10 05	366951660	GLADYS M	61.2526	-149.884	Y	9	1	0	8	13	19	25	N/A	N/A	19	20	31	36	N/A	N/A	21	24	34	41	N/A	N/A
2012 10 12	366951660	GLADYS M	61.2504	-149.884	Y	9	1	0	8	13	18	25	N/A	N/A	19	20	31	36	N/A	N/A	21	24	33	41	N/A	N/A
2012 10 19	366951660	GLADYS M	61.2278	-149.917	Y	9	1	0	7	13	18	23	N/A	N/A	19	19	31	34	N/A	N/A	21	23	33	38	N/A	N/A
2012 10 25	366951660	GLADYS M	61.2256	-149.922	Y	9	1	0	7	13	18	22	N/A	N/A	19	19	31	33	N/A	N/A	21	23	33	38	N/A	N/A

# Both:	1011	0	# Both:	1044	1044	# Both:	1044	851
# Neither:	33	1044	# Neither:	0	0	# Neither:	0	182
# Tanker Only:	0	0	# Tanker Only:	0	0	# Tanker Only:	0	11
# Containership Only:	0	0	# Containership Only:	0	0	# Containership Only:	0	0
Total #:	1044	1044	Total #:	1044	1044	Total #:	1044	1044
# Neither:	33	1044						
# < 6 hours:	57	0	# < 6 hours:	77	87	# < 6 hours:	19	19
# 6-12 hours:	188	0	# 6-12 hours:	148	82	# 6-12 hours:	180	153
# 12-18 hours:	103	0	# 12-18 hours:	298	82	# 12-18 hours:	445	67
# > 18 hours:	663	0	# > 18 hours:	521	793	# > 18 hours:	400	612
Total #:	1011	0	Total #:	1044	1044	Total #:	1044	851