

**AUDIT OF SALMON CLOSURE ZONE
COMPLIANCE MONITORING,
BERING SEA POLLOCK FISHERY, 2014**

Prepared for

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Background

Closure zones were established for the Bering Sea pollock (*Theragra calcoogramma*) fishery to ensure that fishing vessels would avoid areas with the potential for substantial bycatch of chum salmon (*Oncorhynchus keta*). Vessel Monitoring System (VMS) units monitored the movement and location of fishing vessels, and fisheries observers and vessel logbooks recorded whether vessels were actively fishing. Sea State, Inc., establishes these closure zones and monitors vessel compliance of these zones using VMS data.

In addition to these requirements, the National Oceanic and Atmospheric Administration (NOAA) Fisheries, Alaska Region, requires for the Pollock fishery “an external audit designed to evaluate the accuracy of the approach used by Sea State to monitor compliance.” The 2014 audit, which NOAA required be based on an “[e]xamination of a randomly selected subset of vessel/days representing 10% of the catch” was conducted by ABR, Inc.—Environmental Research and Services (hereafter, ABR) for Sea State, Inc. This report presents the analytical methods used to evaluate Sea State’s salmon closure zone compliance monitoring, and the results of the audit.

Study Objectives

The objectives of the audit were twofold: (1) assess the compliance of fishing vessels within salmon closure zones by sampling 10% of the 2014 fishing effort, and (2) compare the audit findings with Sea State’s conclusions regarding closure violations.

Assumptions

The audit is based upon the following assumptions, which we have not independently verified:

- Fishing observer data are always correct, and these sources never report non-fishing activity when fishing actually was occurring, or fishing activity when vessels were not fishing.
- The following data provided by Sea State are free from errors: the table of VMS locations; the tables of observer data indicating haul start and stop times, and catch weights; the tables used to determine co-op membership.

- All coordinates specified in the VMS location tables and vessel closure announcements were in the same horizontal datum, namely World Geodetic System 1984 (WGS1984).

Audit Methods

Subset Selection

The pollock fishery has three major sectors (Catcher/Processors, Catcher vessels supplying motherships, and Catcher vessels supplying shoreside fish processors). All vessels have fisheries observers on board, so we have complete data detailing when each vessel was fishing.

Although the NOAA Fisheries requirement stipulated that “vessel/days representing 10% of the catch” were to be audited, we did not interpret this literally because fish catches are not typically reported by day, and the observer data we had did not include catch totals. We believe our sampling method, described in the following paragraph, was consistent with the intent of the permit stipulation.

Data collected by fisheries observers provided full coverage for the fishery with start times and stop times for each haul. To randomly select vessel/days representing 10% of the catch, individual hauls were selected by sector, without replacement until the number of selected hauls exceeded 10% of the total (Appendix 1).

Identification of Candidate Closure Zone Violations

Before performing any analyses on the VMS location data, we built closure polygons and verified tier status information by examining all closure notification memos. The dates that a closure applied for each permit cooperative unit (co-op) was also recorded from the original memos.

All VMS points (a “point” is a specific latitude-longitude coordinate for the fishing vessel) were then passed through a series of geoprocessing operations and database filters to reduce the full set of data down to a limited number of potential closure zone violations.

First, the VMS points were intersected with the dataset of closure polygons (i.e., the geographic areas of the closure zones) for all points that were within a closure when the closure was operational. This overlay excluded all points that were outside of closure zones, or were

inside zones when the closure was not in effect. Each occurrence of a point within a closure zone resulted in an output table row linking the VMS point with the closure zone.

Next, these intersections of VMS points and closures were reduced by removing all intersections that weren't part of the 10% random sample of trips or hauls we generated earlier. The remaining point/closure intersections represent the list of “candidate” (i.e., possible) violation points.

We found 65 candidate violations in our 10% sample.

BUFFER FILTER

The accuracy of each reported VMS location is subject to the accuracy of the GPS system, which depends on the number and distribution of satellites visible to the equipment on each vessel at that time. Typical GPS accuracy ranges from 5 to 30 meters, which means that points found to be within a closure should only be considered violations if a 30 meter buffer around the reported location is completely within the closure.

We applied a simple 30 meter buffer around each point and compared these with the closure zone boundaries. When the buffer polygons were partially outside the closure zone of interest, the corresponding points were flagged as “excluded by buffer” and these points were eliminated from further consideration.

TIER STATUS FILTER

Location points that still remained as candidate violations were then compared to the tier status reports to determine whether the vessel was exempt from the closure restrictions at the time of the candidate violation. Some closures applied to all vessels, regardless of tier status. Other closures were advisory only, and so technically did not apply to any vessels. The remainder of closures applied to only certain vessels—some vessels were exempt, based on past performance of their co-op at avoiding salmon bycatch. Candidate violations that occurred when the vessel was exempt from closure restrictions were flagged as “exempt from closure due to tier status” and excluded from further consideration.

At this point, all remaining observations with observer data were flagged as “possible violation” indicating that the vessel was within a closure zone when it was not allowed to fish there.

SPEED FILTER

For those locations flagged as “possible violation,” we examined the speed of the vessel between locations to eliminate vessels that were actually running rather than fishing, and to identify any locations where high speeds could indicate an inaccurate satellite position. We applied the simple speed threshold we developed for our assessment of the 2006 season (Macander and Dissing 2007). This is an automated way to filter out many points that clearly corresponded to rapid vessel travel, rather than potential fishing activity.

The speed filter applied several criteria to candidate violations to determine whether they could be excluded as fishing violations on the basis of vessel speed. Locational points met the speed test criteria and were excluded based on a high sustained speed, if they had 1) at least 5 minutes elapsed time from the previous point, 2) at least 5 minutes elapsed time to the next point, 3) a calculated speed of >5.6 knots from the previous point, and 4) a calculated speed of >5.6 knots to the next point. We excluded locations that were within five minutes of each other because they were likely to be GPS position errors and the speeds between those locations were often artificially high due to this error. The speed filter was able to predict fishing activity correctly for 99.83% of examined points in 2006 (Macander and Dissing 2007).

To develop the data necessary to apply the speed filter, the minimum sustained speed and the time interval to and from successive VMS locations were calculated for each point. Speeds were calculated from the distance and difference in time between successive VMS locations. These values corresponded to a minimum speed because vessels traveling a zig-zag course between two observations would have a speed higher than the calculated speed. Candidate violations that met our speed test criteria were flagged as “excluded due to high sustained speed.” These data were excluded from further consideration.

VISUAL EXAMINATION

The remaining candidate violations were reviewed manually. In the past, we have noted that some of the points that did not pass the conservative speed test corresponded to non-fishing activity. For example, some points, which were just below the speed threshold, were along a straight line with several other points that did meet the criteria of the speed filter. Points that did not meet the speed test, but which were determined to correspond to running out to the fishing ground (based on visual review), were flagged as “excluded by manual review: vessel running.” These data were excluded from further consideration.

Remaining points corresponded to fishing in closure zones, and are flagged as “possible violation.” Violations will be reported to Sea State and the North Pacific Fisheries Management Council (NPFMC). A database containing the relevant attribute data for these violations, and maps for each violation, will be provided to Sea State and NPFMC.

Comparison with Sea State Determinations

A comparison of the violations reported by ABR was made to those reported by Sea State. All of the location points that were part of ABR’s 10% selection were considered in this assessment.

Results and Discussion

Identification of Candidate Closure Zone Violations

IDENTIFYING CANDIDATE VIOLATIONS

The identification of candidate violations was entirely automated, without any interpretation or subjective thresholds (Table 1). This automated approach efficiently reduced the number of points requiring closer examination from 404,488 for the total fishery to zero.

Table 1. Number of vessel locations considered at different stages of the closure violation audit, Bering Sea pollock fishery, 2014.

Category	Locations
All VMS Locations	404,488
Select 10% of Hauls	9,986
Points in Closure when Closed (Candidate Violations)	65
Violations	0

We did find one problem during the identification of candidate violations. VMS locations for three of the vessels in the audit were not available. Based on the 10% sample of the observer data, these three vessels accounted for nine hauls, representing just under 34 hours of fishing. Eight of the nine were fishing during times when their co-op was responsible for observing a closure, so these missing data are not counted in our candidate violations.

CATEGORIZING CANDIDATE VIOLATIONS

A small degree of subjectivity is involved in setting the buffer distances and vessel speed thresholds, as well as in the process of reviewing vessel tracks manually. We believe, however, that our approach was cautious, well-documented, and reasonable. In this year's audit, all candidate locations came from vessels fishing in a co-op that was not required to observe the closure. As a result, we found no closure violations in our 10% sample (Table 2).

Table 2. Results of ABR review of candidate violations of the closure zones, Bering Sea pollock fishery, 2014.

Category	Total
Candidate Violations	65
Excluded by buffer	0
Excluded based on tier status	65
Excluded by speed filter	0
Excluded by visual review	0
Violations	0

Comparison with Sea State Determinations

For all cases where we had data, our verdicts agreed with Sea State's determinations (Appendix 2). Our 10% subsample did not identify any errors in Sea State's original determinations, and we did not further investigate locations outside of our subsample.

Conclusions

ABR agreed with the determinations of Sea State for the 10% sample that we examined, and we found no closure zone violations. Of points examined, our determination agreed with Sea State for all 9,986 locations in our subsample. We did discover missing location data for three

vessels fishing during the season. Because of this, we were unable to assess whether these hauls were in compliance with the closures that applied to them.

With the exception of the closure zone data, which we reconstruct from the closure documents, ABR's assessment was based on our review and processing of data tables developed and provided by Sea State, Inc. As a result, our audit does not systematically assess any errors that might have occurred during Sea State's data compilation process.

Literature Cited

Macander, M. J., and D. Dissing. 2007. Audit of salmon closure zone compliance monitoring, Bering Sea Pollock fishery. ABR, Inc.—Environmental Research & Services, Fairbanks, AK, 99708. 48 pages.

Appendix 1. Audited hauls for the Bering Sea pollock fishery, 2014.

Vessel	Deploy Date/Time	Retrieve Date/Time
Alaska Ocean	2014-06-20 14:15	2014-06-20 15:10
Alaska Ocean	2014-06-21 12:50	2014-06-21 16:10
Alaska Ocean	2014-06-27 20:00	2014-06-27 23:00
Alaska Ocean	2014-06-28 18:10	2014-06-28 19:45
Alaska Ocean	2014-07-04 06:25	2014-07-04 12:30
Alaska Ocean	2014-07-10 14:40	2014-07-10 16:50
Alaska Ocean	2014-07-12 13:40	2014-07-12 19:45
Alaska Ocean	2014-07-21 02:35	2014-07-21 06:20
Alaska Ocean	2014-07-24 09:05	2014-07-24 12:30
Alaska Ocean	2014-07-26 15:45	2014-07-26 17:40
Alaska Ocean	2014-07-27 17:10	2014-07-27 19:00
Alaska Ocean	2014-07-27 23:20	2014-07-28 04:00
Alaska Ocean	2014-07-28 14:20	2014-07-28 18:00
Alaska Ocean	2014-08-07 17:25	2014-08-07 20:45
Alaska Ocean	2014-08-11 16:45	2014-08-11 22:20
Alaska Ocean	2014-08-12 09:05	2014-08-12 13:20
Alaska Ocean	2014-08-16 03:55	2014-08-16 06:20
Alaska Ocean	2014-09-02 00:30	2014-09-02 05:05
Alaska Ocean	2014-09-03 02:10	2014-09-03 07:35
Alaska Rose	2014-06-20 14:10	2014-06-20 15:30
Alaska Rose	2014-06-21 11:30	2014-06-21 18:00
Alaska Rose	2014-06-29 11:30	2014-06-29 17:30
Alaska Rose	2014-07-17 03:15	2014-07-17 10:30
Alaska Rose	2014-07-22 03:45	2014-07-22 16:20
Alaska Rose	2014-08-05 15:30	2014-08-05 20:40
Alaska Rose	2014-08-23 00:05	2014-08-23 02:00
Aldebaran	2014-06-25 22:40	2014-06-26 07:00
Aldebaran	2014-07-02 02:20	2014-07-02 07:16
Aldebaran	2014-07-17 00:45	2014-07-17 08:30
Aldebaran	2014-07-17 16:30	2014-07-17 20:00
Aldebaran	2014-07-20 19:30	2014-07-20 22:45
Aldebaran	2014-07-26 13:00	2014-07-26 17:30
Aldebaran	2014-08-05 22:45	2014-08-06 10:50
Aldebaran	2014-08-12 03:15	2014-08-12 13:10
Aldebaran	2014-08-21 17:33	2014-08-21 19:45
Aldebaran	2014-08-31 15:50	2014-09-01 04:00
Aldebaran	2014-09-17 02:50	2014-09-17 10:30
Aleutian Challenger	2014-08-25 07:15	2014-08-25 12:04
Aleutian Challenger	2014-08-29 08:15	2014-08-29 12:30
Aleutian Challenger	2014-09-05 01:30	2014-09-05 08:30

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Aleutian Challenger	2014-09-06 18:30	2014-09-07 02:00
Aleutian Challenger	2014-09-09 16:00	2014-09-09 22:25
Aleutian Challenger	2014-09-11 22:16	2014-09-12 00:40
Aleutian Challenger	2014-09-17 21:15	2014-09-18 02:26
Aleutian Challenger	2014-09-23 13:10	2014-09-23 18:15
Alsea	2014-06-12 23:02	2014-06-13 11:12
Alsea	2014-06-18 11:56	2014-06-18 17:41
Alsea	2014-06-28 12:38	2014-06-29 00:23
Alsea	2014-07-07 16:18	2014-07-07 23:08
Alsea	2014-07-11 22:18	2014-07-12 10:58
Alsea	2014-08-05 17:52	2014-08-05 23:22
Alsea	2014-08-06 11:07	2014-08-06 14:32
Alsea	2014-08-11 01:32	2014-08-11 09:52
Alsea	2014-08-13 16:12	2014-08-13 22:07
Alyeska	2014-09-27 04:00	2014-09-27 12:45
American Beauty	2014-07-07 05:50	2014-07-07 16:50
American Beauty	2014-07-07 18:10	2014-07-08 06:20
American Beauty	2014-07-13 10:15	2014-07-13 14:30
American Beauty	2014-07-27 02:00	2014-07-27 07:45
American Beauty	2014-07-28 01:20	2014-07-28 03:36
American Beauty	2014-08-02 10:20	2014-08-02 13:00
American Beauty	2014-08-03 18:30	2014-08-03 22:50
American Beauty	2014-08-05 02:00	2014-08-05 05:17
American Beauty	2014-08-07 01:50	2014-08-07 08:40
American Beauty	2014-08-07 19:30	2014-08-07 23:00
American Beauty	2014-08-08 08:50	2014-08-08 10:50
American Dynasty	2014-06-10 23:40	2014-06-11 04:20
American Dynasty	2014-06-14 00:41	2014-06-14 06:05
American Dynasty	2014-06-15 09:40	2014-06-15 14:50
American Dynasty	2014-06-18 02:40	2014-06-18 08:30
American Dynasty	2014-06-30 13:15	2014-06-30 16:30
American Dynasty	2014-07-01 16:55	2014-07-01 19:50
American Dynasty	2014-07-02 04:10	2014-07-02 09:20
American Dynasty	2014-07-02 14:17	2014-07-02 16:45
American Dynasty	2014-07-03 02:05	2014-07-03 07:00
American Dynasty	2014-07-09 09:30	2014-07-09 13:15
American Dynasty	2014-07-11 04:55	2014-07-11 07:45
American Dynasty	2014-07-12 16:50	2014-07-12 20:15
American Dynasty	2014-07-13 21:50	2014-07-14 03:50
American Dynasty	2014-07-14 11:00	2014-07-14 17:00

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
American Dynasty	2014-07-14 19:50	2014-07-14 21:10
American Dynasty	2014-07-16 05:40	2014-07-16 11:25
American Dynasty	2014-07-18 07:05	2014-07-18 10:25
American Dynasty	2014-07-26 22:10	2014-07-27 03:10
American Dynasty	2014-07-29 10:20	2014-07-29 16:30
American Dynasty	2014-07-30 07:30	2014-07-30 14:00
American Dynasty	2014-08-03 22:40	2014-08-04 02:45
American Dynasty	2014-08-04 15:05	2014-08-04 18:00
American Dynasty	2014-08-08 07:09	2014-08-08 15:40
American Dynasty	2014-08-10 03:05	2014-08-10 10:10
American Dynasty	2014-08-11 00:35	2014-08-11 02:00
American Dynasty	2014-08-18 11:43	2014-08-18 16:30
American Dynasty	2014-08-19 02:15	2014-08-19 06:00
American Dynasty	2014-08-19 10:15	2014-08-19 12:55
American Dynasty	2014-08-30 22:50	2014-08-31 00:50
American Dynasty	2014-08-31 02:05	2014-08-31 05:15
American Dynasty	2014-09-04 11:05	2014-09-04 16:10
American Dynasty	2014-09-06 03:15	2014-09-06 06:20
American Eagle	2014-06-30 16:15	2014-06-30 16:50
American Eagle	2014-07-02 21:45	2014-07-03 08:00
American Eagle	2014-07-06 17:30	2014-07-06 20:00
American Eagle	2014-07-09 21:15	2014-07-10 04:40
American Eagle	2014-07-10 06:00	2014-07-10 07:30
American Eagle	2014-07-28 06:00	2014-07-28 17:00
American Eagle	2014-08-11 13:00	2014-08-11 23:45
American Eagle	2014-08-17 14:00	2014-08-17 17:20
American Eagle	2014-08-31 15:00	2014-08-31 23:45
American Eagle	2014-09-03 22:00	2014-09-04 04:50
American Triumph	2014-06-11 16:45	2014-06-11 21:05
American Triumph	2014-06-12 00:20	2014-06-12 06:20
American Triumph	2014-06-16 19:20	2014-06-16 22:40
American Triumph	2014-06-17 13:05	2014-06-17 17:50
American Triumph	2014-06-17 18:40	2014-06-17 22:10
American Triumph	2014-06-18 17:05	2014-06-18 21:40
American Triumph	2014-06-26 10:40	2014-06-26 12:00
American Triumph	2014-06-29 22:40	2014-06-30 04:50
American Triumph	2014-07-02 15:00	2014-07-02 19:55
American Triumph	2014-07-03 12:15	2014-07-03 17:25
American Triumph	2014-07-09 14:50	2014-07-09 16:55
American Triumph	2014-07-12 07:40	2014-07-12 09:40

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
American Triumph	2014-07-13 17:30	2014-07-13 22:15
American Triumph	2014-07-15 15:20	2014-07-15 17:55
American Triumph	2014-07-17 18:50	2014-07-17 22:25
American Triumph	2014-07-19 04:50	2014-07-19 10:25
American Triumph	2014-07-23 19:50	2014-07-23 23:15
American Triumph	2014-07-26 10:00	2014-07-26 14:40
American Triumph	2014-07-30 05:15	2014-07-30 12:10
American Triumph	2014-07-31 09:30	2014-07-31 13:05
American Triumph	2014-08-01 07:30	2014-08-01 12:25
American Triumph	2014-08-07 13:15	2014-08-07 17:10
American Triumph	2014-08-15 16:40	2014-08-15 20:37
American Triumph	2014-08-17 04:10	2014-08-17 11:00
American Triumph	2014-08-18 08:55	2014-08-18 13:40
American Triumph	2014-08-24 17:05	2014-08-24 21:37
American Triumph	2014-08-29 19:00	2014-08-30 00:20
Anita J	2014-06-12 00:00	2014-06-12 09:28
Anita J	2014-06-19 22:52	2014-06-20 06:28
Anita J	2014-06-25 13:10	2014-06-25 15:23
Anita J	2014-07-17 18:29	2014-07-18 03:12
Anita J	2014-07-28 11:02	2014-07-28 15:27
Anita J	2014-08-11 03:53	2014-08-11 12:51
Anita J	2014-08-16 16:17	2014-08-16 18:08
Anita J	2014-08-20 03:14	2014-08-20 08:30
Anita J	2014-08-27 08:38	2014-08-27 22:33
Anita J	2014-09-04 23:59	2014-09-05 09:22
Anita J	2014-09-07 16:00	2014-09-07 22:36
Arctic Explorer	2014-08-27 13:05	2014-08-27 22:11
Arctic Explorer	2014-08-30 00:02	2014-08-30 12:30
Arctic Explorer	2014-08-31 13:46	2014-08-31 22:53
Arctic Explorer	2014-09-06 15:08	2014-09-07 07:00
Arctic Explorer	2014-09-19 12:46	2014-09-19 16:31
Arctic Explorer	2014-09-20 17:09	2014-09-20 19:30
Arctic Fjord	2014-06-14 04:45	2014-06-14 08:25
Arctic Fjord	2014-06-16 02:45	2014-06-16 07:10
Arctic Fjord	2014-06-24 06:15	2014-06-24 07:35
Arctic Fjord	2014-06-26 08:55	2014-06-26 13:55
Arctic Fjord	2014-06-27 03:45	2014-06-27 06:55
Arctic Fjord	2014-06-27 14:00	2014-06-27 19:45
Arctic Fjord	2014-07-09 05:10	2014-07-09 11:20
Arctic Fjord	2014-07-11 14:00	2014-07-11 15:55

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Arctic Fjord	2014-07-21 09:35	2014-07-21 11:35
Arctic Fjord	2014-07-27 05:20	2014-07-27 08:30
Arctic Fjord	2014-07-27 18:15	2014-07-27 21:00
Arctic Fjord	2014-07-28 10:15	2014-07-28 11:10
Arctic Fjord	2014-07-28 12:45	2014-07-28 16:00
Arctic Fjord	2014-07-29 09:30	2014-07-29 12:40
Arctic Fjord	2014-07-30 03:50	2014-07-30 08:25
Arctic Fjord	2014-07-31 05:00	2014-07-31 08:50
Arctic Fjord	2014-07-31 15:30	2014-07-31 16:55
Arctic Fjord	2014-07-31 17:35	2014-07-31 20:35
Arctic Fjord	2014-08-10 06:30	2014-08-10 14:30
Arctic Fjord	2014-08-12 10:45	2014-08-12 16:10
Arctic Fjord	2014-08-13 07:05	2014-08-13 11:00
Arctic Fjord	2014-08-16 11:30	2014-08-16 16:35
Arctic Fjord	2014-08-20 02:30	2014-08-20 06:30
Arctic Fjord	2014-08-21 18:55	2014-08-21 21:55
Arctic Fjord	2014-08-25 19:30	2014-08-25 23:30
Arctic Fjord	2014-08-26 11:10	2014-08-26 15:35
Arctic Fjord	2014-09-02 06:55	2014-09-02 12:15
Arctic Fjord	2014-09-02 12:55	2014-09-02 19:35
Arctic Fjord	2014-09-05 19:00	2014-09-05 23:00
Arctic Fjord	2014-09-07 08:50	2014-09-07 14:10
Arctic Fjord	2014-09-08 00:20	2014-09-08 05:35
Arctic Fjord	2014-09-15 03:10	2014-09-15 09:10
Arctic Fjord	2014-09-15 18:05	2014-09-15 22:35
Arctic Ram	2014-06-13 13:00	2014-06-13 16:10
Arctic Ram	2014-06-27 19:45	2014-06-28 15:00
Arctic Ram	2014-09-21 11:55	2014-09-21 15:45
Arctic Storm	2014-06-20 15:55	2014-06-20 17:45
Arctic Storm	2014-06-20 20:40	2014-06-20 23:55
Arctic Storm	2014-06-23 03:40	2014-06-23 05:00
Arctic Storm	2014-06-25 03:15	2014-06-25 05:55
Arctic Storm	2014-06-26 10:15	2014-06-26 15:30
Arctic Storm	2014-07-11 15:35	2014-07-11 23:05
Arctic Storm	2014-07-12 00:20	2014-07-12 09:50
Arctic Storm	2014-07-14 19:05	2014-07-14 21:05
Arctic Storm	2014-07-15 09:45	2014-07-15 13:30
Arctic Storm	2014-07-15 17:30	2014-07-15 23:10
Arctic Storm	2014-07-17 10:35	2014-07-17 16:20
Arctic Storm	2014-07-22 06:28	2014-07-22 10:15

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Arctic Storm	2014-07-23 11:05	2014-07-23 14:30
Arctic Storm	2014-07-23 16:00	2014-07-23 23:00
Arctic Storm	2014-07-24 00:05	2014-07-24 03:30
Arctic Storm	2014-07-25 22:00	2014-07-26 04:05
Arctic Storm	2014-07-26 13:45	2014-07-26 14:15
Arctic Storm	2014-08-12 13:15	2014-08-12 19:35
Arctic Storm	2014-08-15 19:35	2014-08-16 01:05
Arctic Storm	2014-08-17 21:15	2014-08-18 04:30
Arctic Storm	2014-08-19 14:00	2014-08-19 14:45
Arctic Storm	2014-08-26 06:25	2014-08-26 09:20
Arctic Storm	2014-08-28 09:15	2014-08-28 12:45
Arctic Storm	2014-08-29 04:05	2014-08-29 06:30
Arctic Storm	2014-08-29 16:40	2014-08-29 22:15
Arctic Storm	2014-08-31 19:20	2014-08-31 20:55
Arctic Storm	2014-09-03 00:05	2014-09-03 03:25
Arctic Storm	2014-09-05 07:15	2014-09-05 10:30
Arctic Storm	2014-09-05 23:30	2014-09-06 00:45
Arctic Wind	2014-06-18 13:00	2014-06-19 07:00
Arcturus	2014-06-11 23:35	2014-06-12 08:35
Arcturus	2014-07-06 13:40	2014-07-06 15:10
Arcturus	2014-07-09 10:20	2014-07-09 17:10
Arcturus	2014-07-20 02:15	2014-07-20 12:30
Arcturus	2014-07-24 02:40	2014-07-24 05:15
Arcturus	2014-08-08 09:30	2014-08-08 15:45
Arcturus	2014-09-11 17:00	2014-09-12 10:30
Arcturus	2014-09-20 16:55	2014-09-20 19:40
Argosy	2014-06-12 02:10	2014-06-12 04:20
Argosy	2014-06-21 20:20	2014-06-22 07:10
Argosy	2014-07-11 04:50	2014-07-11 21:50
Argosy	2014-07-12 00:45	2014-07-12 12:30
Argosy	2014-07-30 00:50	2014-07-30 16:45
Argosy	2014-08-15 14:55	2014-08-16 08:35
Argosy	2014-08-30 13:15	2014-08-31 04:45
Auriga	2014-06-19 04:05	2014-06-19 10:30
Auriga	2014-07-06 19:55	2014-07-07 07:30
Auriga	2014-07-07 19:05	2014-07-07 23:55
Auriga	2014-07-25 12:00	2014-07-25 14:20
Auriga	2014-08-03 11:35	2014-08-03 13:15
Auriga	2014-08-14 13:00	2014-08-14 15:30
Auriga	2014-09-02 06:15	2014-09-02 17:10

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Auriga	2014-09-08 23:40	2014-09-09 16:10
Aurora	2014-06-13 10:30	2014-06-13 11:45
Aurora	2014-06-27 19:45	2014-06-28 09:00
Aurora	2014-07-02 17:13	2014-07-02 22:00
Aurora	2014-07-28 09:25	2014-07-28 16:25
Aurora	2014-08-06 02:00	2014-08-06 08:20
Aurora	2014-08-14 10:50	2014-08-14 13:05
Aurora	2014-08-23 23:55	2014-08-24 12:10
Aurora	2014-09-07 22:00	2014-09-08 10:20
Bering Defender	2014-06-18 00:05	2014-06-18 10:45
Bering Defender	2014-06-20 18:30	2014-06-21 02:40
Bering Defender	2014-07-05 22:50	2014-07-06 09:00
Bering Defender	2014-07-06 19:30	2014-07-07 09:30
Bering Defender	2014-07-24 19:40	2014-07-25 10:25
Bering Defender	2014-07-25 17:00	2014-07-26 02:15
Bering Defender	2014-08-05 12:20	2014-08-05 16:10
Bering Defender	2014-08-13 12:30	2014-08-14 01:15
Bering Defender	2014-08-19 16:45	2014-08-19 19:25
Bering Rose	2014-07-14 02:00	2014-07-14 08:00
Bering Rose	2014-07-14 10:00	2014-07-14 13:45
Bering Rose	2014-07-23 01:00	2014-07-23 07:45
Bering Rose	2014-08-17 16:45	2014-08-17 17:45
Bering Rose	2014-08-25 14:00	2014-08-25 22:00
Bering Rose	2014-08-25 23:30	2014-08-26 07:15
Bristol Explorer	2014-07-06 17:48	2014-07-06 20:10
Bristol Explorer	2014-07-20 20:03	2014-07-20 22:25
Bristol Explorer	2014-07-27 15:47	2014-07-27 17:55
Bristol Explorer	2014-07-27 18:44	2014-07-27 23:16
Bristol Explorer	2014-07-30 11:54	2014-07-30 23:30
Bristol Explorer	2014-08-03 02:28	2014-08-03 13:22
Bristol Explorer	2014-08-13 17:42	2014-08-14 08:05
Bristol Explorer	2014-08-19 11:25	2014-08-19 16:02
Bristol Explorer	2014-08-31 12:27	2014-08-31 15:46
Bristol Explorer	2014-08-31 23:55	2014-09-01 10:39
Bristol Explorer	2014-09-01 12:13	2014-09-01 18:03
Bristol Explorer	2014-09-04 11:00	2014-09-04 19:44
Bristol Explorer	2014-09-04 21:08	2014-09-05 09:31
Bristol Explorer	2014-09-21 13:50	2014-09-21 22:20
Bristol Explorer	2014-09-21 23:43	2014-09-22 08:45
Bristol Explorer	2014-09-22 10:45	2014-09-22 15:25

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Caitlin Ann	2014-06-26 20:40	2014-06-27 09:35
Caitlin Ann	2014-08-08 02:10	2014-08-08 10:10
Caitlin Ann	2014-08-23 20:40	2014-08-23 23:10
Caitlin Ann	2014-08-24 14:10	2014-08-24 22:35
Caitlin Ann	2014-09-04 13:05	2014-09-04 21:50
Caitlin Ann	2014-09-07 02:25	2014-09-07 13:05
Cape Kiwanda	2014-06-14 14:10	2014-06-14 15:45
Cape Kiwanda	2014-06-28 07:56	2014-06-28 14:58
Cape Kiwanda	2014-07-03 17:58	2014-07-03 19:41
Cape Kiwanda	2014-07-15 15:32	2014-07-15 18:09
Cape Kiwanda	2014-07-16 14:16	2014-07-16 21:10
Cape Kiwanda	2014-07-20 12:20	2014-07-20 21:32
Cape Kiwanda	2014-07-29 07:27	2014-07-29 15:14
Cape Kiwanda	2014-07-29 21:42	2014-07-30 08:32
Chelsea K	2014-06-19 13:42	2014-06-19 22:16
Chelsea K	2014-07-01 17:45	2014-07-01 21:12
Chelsea K	2014-07-07 22:36	2014-07-08 02:10
Chelsea K	2014-07-20 17:49	2014-07-20 22:17
Chelsea K	2014-08-05 15:49	2014-08-05 20:56
Chelsea K	2014-08-12 15:58	2014-08-12 23:54
Chelsea K	2014-08-13 01:05	2014-08-13 11:08
Chelsea K	2014-08-18 18:32	2014-08-18 21:28
Chelsea K	2014-08-23 23:55	2014-08-24 10:34
Chelsea K	2014-09-05 07:40	2014-09-05 15:24
Collier Brothers	2014-07-06 09:00	2014-07-06 12:00
Collier Brothers	2014-07-28 01:30	2014-07-28 08:30
Collier Brothers	2014-08-01 18:17	2014-08-01 22:04
Columbia	2014-08-04 11:45	2014-08-04 17:45
Columbia	2014-08-11 08:00	2014-08-11 16:50
Columbia	2014-08-30 17:00	2014-08-31 02:00
Columbia	2014-09-01 16:05	2014-09-02 05:15
Columbia	2014-09-15 16:45	2014-09-16 12:25
Commodore	2014-06-21 11:50	2014-06-21 12:10
Commodore	2014-06-21 13:20	2014-06-21 18:50
Commodore	2014-06-25 17:40	2014-06-25 19:30
Commodore	2014-07-26 01:20	2014-07-26 12:00
Commodore	2014-08-14 13:00	2014-08-14 13:30
Commodore	2014-08-14 14:45	2014-08-14 16:05
Commodore	2014-08-18 17:00	2014-08-18 20:10
Defender	2014-06-28 20:00	2014-06-29 10:00

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Defender	2014-07-13 20:30	2014-07-14 11:15
Defender	2014-07-14 13:30	2014-07-14 22:30
Defender	2014-08-05 19:00	2014-08-06 04:20
Defender	2014-08-12 04:45	2014-08-12 22:45
Defender	2014-08-13 00:30	2014-08-13 08:00
Defender	2014-08-21 13:50	2014-08-21 23:10
Defender	2014-08-22 13:00	2014-08-22 15:00
Defender	2014-08-26 16:45	2014-08-26 23:00
Defender	2014-09-03 18:30	2014-09-04 03:30
Defender	2014-09-16 13:15	2014-09-17 07:15
Destination	2014-06-20 14:10	2014-06-20 14:40
Destination	2014-06-22 04:55	2014-06-22 07:30
Destination	2014-07-01 17:00	2014-07-02 03:50
Destination	2014-07-06 15:20	2014-07-06 20:50
Destination	2014-07-07 11:00	2014-07-07 14:50
Destination	2014-07-31 05:30	2014-07-31 14:00
Destination	2014-08-04 12:45	2014-08-04 16:30
Destination	2014-08-18 13:20	2014-08-18 15:40
Dominator	2014-06-19 15:45	2014-06-19 18:30
Dominator	2014-06-24 22:15	2014-06-25 09:05
Dominator	2014-07-23 00:30	2014-07-23 08:25
Dominator	2014-07-31 15:40	2014-07-31 17:50
Dominator	2014-09-12 01:15	2014-09-12 13:45
Elizabeth F	2014-06-10 12:15	2014-06-10 14:10
Elizabeth F	2014-06-14 10:00	2014-06-14 12:15
Elizabeth F	2014-06-14 14:00	2014-06-14 15:30
Elizabeth F	2014-06-20 10:00	2014-06-20 14:30
Elizabeth F	2014-07-01 20:00	2014-07-01 22:30
Elizabeth F	2014-07-03 20:00	2014-07-03 23:00
Excalibur II	2014-07-07 14:21	2014-07-07 18:52
Excalibur II	2014-07-22 17:21	2014-07-22 17:51
Excalibur II	2014-07-27 17:54	2014-07-27 20:39
Fierce Allegiance	2014-06-16 14:30	2014-06-16 23:00
Fierce Allegiance	2014-06-17 22:00	2014-06-18 10:00
Fierce Allegiance	2014-06-18 16:30	2014-06-19 02:30
Fierce Allegiance	2014-06-28 03:45	2014-06-28 16:30
Fierce Allegiance	2014-07-03 14:15	2014-07-03 22:00
Fierce Allegiance	2014-07-13 03:00	2014-07-13 17:30
Fierce Allegiance	2014-07-18 01:30	2014-07-18 13:30
Fierce Allegiance	2014-07-22 18:00	2014-07-23 02:00

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Fierce Allegiance	2014-08-09 03:00	2014-08-09 22:00
Gladiator	2014-07-25 01:20	2014-07-25 10:07
Gladiator	2014-07-25 22:50	2014-07-26 10:50
Gladiator	2014-08-21 15:33	2014-08-21 17:39
Gladiator	2014-09-10 13:11	2014-09-10 21:00
Gladiator	2014-09-15 22:33	2014-09-16 09:39
Golden Dawn	2014-06-28 17:01	2014-06-28 21:31
Golden Dawn	2014-07-07 17:57	2014-07-07 19:11
Golden Dawn	2014-07-20 04:23	2014-07-20 09:11
Golden Dawn	2014-07-25 17:03	2014-07-25 19:38
Golden Dawn	2014-07-26 12:54	2014-07-26 16:12
Golden Dawn	2014-08-08 10:04	2014-08-08 11:30
Golden Dawn	2014-08-21 18:52	2014-08-21 23:14
Golden Dawn	2014-08-25 19:03	2014-08-26 08:11
Golden Dawn	2014-09-04 13:10	2014-09-04 20:30
Golden Dawn	2014-09-07 14:33	2014-09-08 01:05
Golden Dawn	2014-09-21 12:14	2014-09-21 14:35
Golden Dawn	2014-09-21 16:22	2014-09-22 06:20
Golden Dawn	2014-09-24 10:31	2014-09-24 17:06
Golden Dawn	2014-09-24 21:33	2014-09-24 22:10
Golden Pisces	2014-06-20 09:40	2014-06-20 13:50
Golden Pisces	2014-07-25 18:40	2014-07-26 00:45
Golden Pisces	2014-08-06 09:00	2014-08-06 14:55
Golden Pisces	2014-08-16 11:00	2014-08-16 16:15
Golden Pisces	2014-09-09 09:25	2014-09-09 15:55
Golden Pisces	2014-09-10 08:40	2014-09-10 16:05
Golden Pisces	2014-09-15 17:00	2014-09-15 21:55
Gold Rush	2014-06-24 07:13	2014-06-24 13:21
Gold Rush	2014-07-03 07:30	2014-07-03 12:54
Gold Rush	2014-07-09 10:46	2014-07-09 17:47
Gold Rush	2014-07-27 09:12	2014-07-27 15:16
Gold Rush	2014-08-17 19:45	2014-08-17 23:45
Great Pacific	2014-07-01 05:46	2014-07-01 13:39
Great Pacific	2014-07-12 14:55	2014-07-12 20:38
Great Pacific	2014-07-29 02:51	2014-07-29 04:04
Great Pacific	2014-08-02 22:47	2014-08-03 15:29
Great Pacific	2014-08-06 15:15	2014-08-07 06:15
Great Pacific	2014-08-28 09:50	2014-08-28 16:30
Gun-Mar	2014-06-19 16:50	2014-06-19 19:40
Gun-Mar	2014-06-30 01:15	2014-06-30 10:25

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Gun-Mar	2014-07-03 04:30	2014-07-03 17:30
Gun-Mar	2014-07-25 01:45	2014-07-25 10:10
Gun-Mar	2014-07-25 16:20	2014-07-26 03:20
Gun-Mar	2014-08-03 09:05	2014-08-03 12:30
Gun-Mar	2014-08-03 13:35	2014-08-03 17:00
Gun-Mar	2014-08-20 13:45	2014-08-20 16:40
Hickory Wind	2014-06-13 19:45	2014-06-13 23:45
Hickory Wind	2014-06-14 23:30	2014-06-15 02:00
Hickory Wind	2014-06-24 10:00	2014-06-24 15:15
Hickory Wind	2014-07-05 01:10	2014-07-05 12:00
Hickory Wind	2014-07-11 22:30	2014-07-12 14:30
Hickory Wind	2014-07-12 16:00	2014-07-13 15:15
Hickory Wind	2014-08-02 07:00	2014-08-02 12:15
Hickory Wind	2014-08-07 11:15	2014-08-07 14:40
Island Enterprise	2014-07-13 08:30	2014-07-13 11:35
Island Enterprise	2014-07-13 16:10	2014-07-13 17:45
Island Enterprise	2014-07-16 07:15	2014-07-16 10:50
Island Enterprise	2014-07-17 06:25	2014-07-17 07:50
Island Enterprise	2014-07-18 11:50	2014-07-18 16:20
Island Enterprise	2014-07-26 02:35	2014-07-26 06:40
Island Enterprise	2014-07-26 14:20	2014-07-26 18:20
Island Enterprise	2014-07-27 22:25	2014-07-28 01:25
Island Enterprise	2014-07-31 23:55	2014-08-01 04:00
Island Enterprise	2014-08-07 11:50	2014-08-07 13:00
Island Enterprise	2014-08-08 02:50	2014-08-08 04:30
Island Enterprise	2014-08-08 22:20	2014-08-09 02:00
Island Enterprise	2014-08-10 11:30	2014-08-10 13:25
Island Enterprise	2014-08-13 00:45	2014-08-13 02:15
Island Enterprise	2014-08-14 02:30	2014-08-14 08:30
Island Enterprise	2014-08-24 12:45	2014-08-24 16:15
Island Enterprise	2014-08-28 02:25	2014-08-28 05:30
Island Enterprise	2014-09-05 06:10	2014-09-05 13:15
Island Enterprise	2014-09-06 19:55	2014-09-07 00:30
Island Enterprise	2014-09-07 15:15	2014-09-07 17:15
Island Enterprise	2014-09-09 14:35	2014-09-09 16:25
Island Enterprise	2014-09-10 11:35	2014-09-10 15:20
Island Enterprise	2014-09-12 12:20	2014-09-12 17:45
Island Enterprise	2014-09-15 00:20	2014-09-15 07:45
Kodiak Enterprise	2014-06-14 21:55	2014-06-14 23:40
Kodiak Enterprise	2014-06-21 22:20	2014-06-21 23:30

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Kodiak Enterprise	2014-06-26 11:00	2014-06-26 12:15
Kodiak Enterprise	2014-06-29 21:40	2014-06-30 05:00
Kodiak Enterprise	2014-07-01 13:30	2014-07-01 15:00
Kodiak Enterprise	2014-07-02 05:00	2014-07-02 09:20
Kodiak Enterprise	2014-07-03 19:55	2014-07-03 21:50
Kodiak Enterprise	2014-07-05 02:30	2014-07-05 08:30
Kodiak Enterprise	2014-07-09 22:00	2014-07-10 00:40
Kodiak Enterprise	2014-07-11 11:50	2014-07-11 12:45
Kodiak Enterprise	2014-07-21 22:25	2014-07-21 23:00
Kodiak Enterprise	2014-07-24 08:00	2014-07-24 10:20
Leslie Lee	2014-06-29 07:40	2014-06-29 22:50
Leslie Lee	2014-07-07 15:15	2014-07-07 18:05
Leslie Lee	2014-07-07 19:10	2014-07-07 23:15
Leslie Lee	2014-07-23 19:30	2014-07-24 06:45
Leslie Lee	2014-08-03 13:15	2014-08-03 23:23
Leslie Lee	2014-08-08 09:30	2014-08-08 16:00
Majesty	2014-07-21 01:30	2014-07-21 11:30
Majesty	2014-07-24 13:15	2014-07-24 23:15
Majesty	2014-08-11 13:45	2014-08-11 23:16
Majesty	2014-08-12 11:45	2014-08-12 13:40
Majesty	2014-08-25 20:24	2014-08-26 13:46
Marcy J	2014-06-13 23:10	2014-06-14 00:30
Marcy J	2014-06-30 17:21	2014-06-30 18:50
Marcy J	2014-09-16 16:30	2014-09-16 18:00
Marcy J	2014-09-23 14:00	2014-09-23 16:03
Margaret Lyn	2014-06-16 03:01	2014-06-16 10:14
Margaret Lyn	2014-06-16 15:14	2014-06-16 16:21
Margaret Lyn	2014-06-17 05:30	2014-06-17 08:35
Margaret Lyn	2014-06-17 17:01	2014-06-17 18:59
Margaret Lyn	2014-06-27 08:41	2014-06-27 16:18
Margaret Lyn	2014-07-01 16:47	2014-07-01 17:27
Margaret Lyn	2014-07-17 16:53	2014-07-17 19:44
Margaret Lyn	2014-07-22 16:15	2014-07-22 18:40
Margaret Lyn	2014-07-24 05:07	2014-07-24 11:37
Margaret Lyn	2014-07-27 10:37	2014-07-27 13:07
Margaret Lyn	2014-07-27 22:35	2014-07-28 03:37
Margaret Lyn	2014-07-29 07:38	2014-07-29 08:54
Margaret Lyn	2014-07-31 12:14	2014-07-31 14:00
Margaret Lyn	2014-07-31 21:52	2014-08-01 00:23
Margaret Lyn	2014-08-14 15:17	2014-08-14 16:54

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Margaret Lyn	2014-08-20 02:20	2014-08-20 05:31
Margaret Lyn	2014-08-23 10:47	2014-08-23 13:17
Margaret Lyn	2014-08-24 07:42	2014-08-24 14:17
Margaret Lyn	2014-08-30 09:01	2014-08-30 18:28
Margaret Lyn	2014-09-03 04:47	2014-09-03 12:54
Margaret Lyn	2014-09-05 01:55	2014-09-05 05:19
Margaret Lyn	2014-09-05 08:17	2014-09-05 11:14
Mark I	2014-07-15 00:20	2014-07-15 09:30
Mark I	2014-07-15 20:45	2014-07-16 04:00
Mark I	2014-07-16 09:40	2014-07-16 11:45
Mark I	2014-07-16 14:20	2014-07-16 16:10
Mark I	2014-07-20 00:35	2014-07-20 06:40
Mark I	2014-07-27 22:40	2014-07-28 05:45
Mark I	2014-07-28 14:30	2014-07-28 15:00
Mark I	2014-08-04 17:30	2014-08-04 21:10
Mark I	2014-08-06 08:00	2014-08-06 13:15
Mark I	2014-08-06 14:15	2014-08-06 17:15
Mark I	2014-08-07 20:30	2014-08-07 22:45
Mark I	2014-08-08 15:10	2014-08-08 20:30
Mark I	2014-08-11 09:30	2014-08-11 16:15
Mark I	2014-08-18 21:35	2014-08-19 10:05
Misty Dawn	2014-06-15 23:45	2014-06-16 08:15
Misty Dawn	2014-06-19 18:15	2014-06-19 18:50
Misty Dawn	2014-06-23 05:15	2014-06-23 08:55
Misty Dawn	2014-06-24 10:50	2014-06-24 15:20
Misty Dawn	2014-06-25 00:15	2014-06-25 06:20
Misty Dawn	2014-07-06 20:30	2014-07-06 21:40
Misty Dawn	2014-07-08 05:20	2014-07-08 07:20
Misty Dawn	2014-07-19 18:48	2014-07-20 05:20
Misty Dawn	2014-07-21 23:22	2014-07-22 03:10
Misty Dawn	2014-08-07 18:18	2014-08-07 19:14
Misty Dawn	2014-08-16 00:55	2014-08-16 05:12
Misty Dawn	2014-08-28 03:00	2014-08-28 06:15
Misty Dawn	2014-08-30 03:24	2014-08-30 08:15
Misty Dawn	2014-08-31 13:06	2014-08-31 18:45
Misty Dawn	2014-08-31 20:22	2014-09-01 05:50
Misty Dawn	2014-09-05 10:17	2014-09-05 12:29
Misty Dawn	2014-09-08 11:51	2014-09-08 17:10
Misty Dawn	2014-09-09 10:35	2014-09-09 19:35
Morning Star	2014-06-14 18:03	2014-06-14 21:15

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Morning Star	2014-06-20 22:53	2014-06-21 09:30
Morning Star	2014-06-30 12:46	2014-07-01 00:55
Morning Star	2014-07-06 19:10	2014-07-07 09:40
Morning Star	2014-07-07 11:25	2014-07-07 19:40
Morning Star	2014-07-17 14:25	2014-07-17 18:05
Morning Star	2014-08-23 13:34	2014-08-23 23:00
Morning Star	2014-08-26 12:39	2014-08-26 22:04
Morning Star	2014-08-26 23:50	2014-08-27 09:06
Morning Star	2014-09-04 01:59	2014-09-04 09:30
Morning Star	2014-09-08 00:35	2014-09-08 11:51
Nordic Fury	2014-06-10 18:30	2014-06-10 22:10
Nordic Fury	2014-07-01 01:27	2014-07-01 12:17
Nordic Fury	2014-07-01 15:50	2014-07-02 03:55
Nordic Fury	2014-07-16 13:20	2014-07-16 16:30
Nordic Fury	2014-07-18 23:10	2014-07-19 02:50
Nordic Fury	2014-07-20 13:50	2014-07-20 18:45
Nordic Fury	2014-07-28 02:25	2014-07-28 07:50
Nordic Fury	2014-07-29 09:55	2014-07-29 12:00
Nordic Fury	2014-07-29 18:05	2014-07-29 19:30
Nordic Fury	2014-07-30 10:10	2014-07-30 12:00
Nordic Fury	2014-08-05 21:30	2014-08-06 04:15
Nordic Fury	2014-08-07 08:00	2014-08-07 10:40
Nordic Fury	2014-08-26 09:40	2014-08-26 11:25
Nordic Fury	2014-08-27 14:00	2014-08-27 21:25
Nordic Fury	2014-09-09 10:25	2014-09-09 19:05
Nordic Fury	2014-09-09 21:05	2014-09-10 10:35
Nordic Star	2014-06-19 08:49	2014-06-19 15:15
Nordic Star	2014-08-02 16:44	2014-08-03 03:11
Nordic Star	2014-08-05 12:36	2014-08-05 22:23
Nordic Star	2014-08-21 14:52	2014-08-21 19:06
Nordic Star	2014-08-30 13:11	2014-08-30 16:17
Northern Eagle	2014-06-11 21:50	2014-06-11 23:25
Northern Eagle	2014-06-12 23:15	2014-06-13 01:25
Northern Eagle	2014-06-13 11:50	2014-06-13 15:35
Northern Eagle	2014-06-17 04:35	2014-06-17 07:45
Northern Eagle	2014-06-19 16:15	2014-06-19 20:10
Northern Eagle	2014-06-20 10:20	2014-06-20 12:55
Northern Eagle	2014-06-21 16:40	2014-06-21 18:50
Northern Eagle	2014-06-22 04:20	2014-06-22 08:40
Northern Eagle	2014-06-28 17:15	2014-06-28 19:55

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Northern Eagle	2014-06-29 08:30	2014-06-29 12:50
Northern Eagle	2014-07-02 11:40	2014-07-02 12:50
Northern Eagle	2014-07-04 01:20	2014-07-04 07:45
Northern Eagle	2014-07-07 16:10	2014-07-07 19:00
Northern Eagle	2014-07-12 17:00	2014-07-12 20:40
Northern Eagle	2014-07-15 10:45	2014-07-15 16:20
Northern Eagle	2014-07-15 23:00	2014-07-16 01:00
Northern Eagle	2014-07-19 03:25	2014-07-19 10:15
Northern Eagle	2014-07-23 06:35	2014-07-23 08:50
Northern Eagle	2014-07-26 18:45	2014-07-26 22:45
Northern Eagle	2014-07-29 20:05	2014-07-30 01:00
Northern Eagle	2014-08-01 13:00	2014-08-01 15:35
Northern Eagle	2014-08-12 07:30	2014-08-12 12:55
Northern Eagle	2014-08-12 23:20	2014-08-13 01:45
Northern Eagle	2014-08-15 17:30	2014-08-15 20:00
Northern Eagle	2014-08-16 07:00	2014-08-16 12:30
Northern Eagle	2014-08-16 12:55	2014-08-16 16:35
Northern Eagle	2014-08-23 14:10	2014-08-23 18:05
Northern Eagle	2014-09-02 12:20	2014-09-02 20:25
Northern Eagle	2014-09-04 22:50	2014-09-05 05:15
Northern Eagle	2014-09-07 07:10	2014-09-07 14:10
Northern Eagle	2014-09-09 10:35	2014-09-09 13:35
Northern Eagle	2014-09-11 05:15	2014-09-11 10:50
Northern Hawk	2014-06-19 03:50	2014-06-19 07:40
Northern Hawk	2014-06-19 10:25	2014-06-19 12:20
Northern Hawk	2014-06-20 12:55	2014-06-20 13:50
Northern Hawk	2014-06-26 09:40	2014-06-26 12:55
Northern Hawk	2014-06-27 22:45	2014-06-28 01:40
Northern Hawk	2014-07-03 21:45	2014-07-04 03:55
Northern Hawk	2014-07-05 16:55	2014-07-05 17:55
Northern Hawk	2014-07-05 21:50	2014-07-06 01:20
Northern Hawk	2014-07-07 20:35	2014-07-08 00:40
Northern Hawk	2014-07-09 15:25	2014-07-09 18:40
Northern Hawk	2014-07-10 03:20	2014-07-10 09:10
Northern Hawk	2014-07-10 10:15	2014-07-10 15:00
Northern Hawk	2014-07-11 09:40	2014-07-11 16:10
Northern Hawk	2014-07-19 06:35	2014-07-19 09:55
Northern Hawk	2014-07-19 11:00	2014-07-19 16:00
Northern Hawk	2014-07-23 11:40	2014-07-23 15:25
Northern Hawk	2014-07-23 23:00	2014-07-24 02:40

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Northern Hawk	2014-07-25 10:35	2014-07-25 15:50
Northern Hawk	2014-08-01 02:35	2014-08-01 06:05
Northern Hawk	2014-08-05 22:15	2014-08-06 02:00
Northern Hawk	2014-08-07 06:00	2014-08-07 10:00
Northern Hawk	2014-08-14 06:50	2014-08-14 12:20
Northern Hawk	2014-08-16 05:15	2014-08-16 07:00
Northern Hawk	2014-08-16 11:50	2014-08-16 16:35
Northern Hawk	2014-08-19 05:35	2014-08-19 09:10
Northern Hawk	2014-08-21 02:40	2014-08-21 06:45
Northern Hawk	2014-08-23 10:30	2014-08-23 15:20
Northern Jaeger	2014-06-11 16:45	2014-06-11 18:30
Northern Jaeger	2014-06-13 10:45	2014-06-13 12:10
Northern Jaeger	2014-06-17 20:25	2014-06-17 22:50
Northern Jaeger	2014-06-18 07:00	2014-06-18 09:08
Northern Jaeger	2014-07-04 09:55	2014-07-04 14:05
Northern Jaeger	2014-07-08 18:43	2014-07-09 00:35
Northern Jaeger	2014-07-14 21:29	2014-07-15 02:54
Northern Jaeger	2014-07-17 14:46	2014-07-17 20:46
Northern Jaeger	2014-07-24 15:45	2014-07-24 20:30
Northern Jaeger	2014-07-25 01:42	2014-07-25 08:40
Northern Jaeger	2014-07-26 06:16	2014-07-26 12:40
Northern Jaeger	2014-07-27 05:27	2014-07-27 11:30
Northern Jaeger	2014-07-29 02:28	2014-07-29 07:58
Northern Jaeger	2014-07-29 09:38	2014-07-29 14:30
Northern Jaeger	2014-07-30 06:11	2014-07-30 11:30
Northern Jaeger	2014-07-30 15:48	2014-07-30 17:50
Northern Jaeger	2014-08-02 19:30	2014-08-03 00:39
Northern Jaeger	2014-08-08 22:13	2014-08-09 07:24
Northern Jaeger	2014-08-13 14:28	2014-08-13 19:35
Northern Jaeger	2014-08-17 04:53	2014-08-17 08:45
Northern Jaeger	2014-08-24 04:03	2014-08-24 11:00
Northern Jaeger	2014-08-25 12:28	2014-08-25 14:28
Northern Jaeger	2014-08-28 18:25	2014-08-28 21:09
Northern Jaeger	2014-08-30 19:08	2014-08-31 00:35
Northern Patriot	2014-06-21 21:07	2014-06-22 07:56
Northern Patriot	2014-07-09 09:21	2014-07-09 13:24
Northern Patriot	2014-07-26 11:15	2014-07-26 13:14
Northern Patriot	2014-08-17 02:10	2014-08-17 05:56
Northern Patriot	2014-08-22 05:02	2014-08-22 09:20
Northern Patriot	2014-08-25 10:03	2014-08-25 16:53

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Ocean Explorer	2014-07-06 17:59	2014-07-06 22:35
Ocean Explorer	2014-07-09 17:58	2014-07-10 03:43
Ocean Explorer	2014-07-13 10:44	2014-07-13 16:57
Ocean Explorer	2014-08-02 08:42	2014-08-02 10:12
Ocean Explorer	2014-08-02 12:24	2014-08-02 15:40
Ocean Explorer	2014-08-05 00:35	2014-08-05 12:36
Ocean Explorer	2014-08-09 17:19	2014-08-09 21:55
Ocean Explorer	2014-08-14 22:47	2014-08-15 12:53
Ocean Explorer	2014-08-18 19:04	2014-08-19 06:05
Ocean Explorer	2014-08-19 11:47	2014-08-19 16:13
Ocean Explorer	2014-08-19 19:28	2014-08-19 21:47
Ocean Explorer	2014-08-20 00:45	2014-08-20 07:44
Ocean Explorer	2014-09-01 08:56	2014-09-01 16:51
Ocean Explorer	2014-09-01 19:23	2014-09-01 23:25
Ocean Explorer	2014-09-05 19:15	2014-09-06 00:15
Ocean Explorer	2014-09-09 02:00	2014-09-09 11:44
Ocean Explorer	2014-09-14 11:14	2014-09-14 14:28
Ocean Explorer	2014-09-17 16:39	2014-09-18 05:44
Ocean Explorer	2014-09-18 17:31	2014-09-19 00:15
Ocean Hope 3	2014-07-02 07:00	2014-07-02 10:50
Ocean Hope 3	2014-07-08 22:00	2014-07-09 07:45
Ocean Hope 3	2014-07-18 21:45	2014-07-18 23:00
Ocean Hope 3	2014-08-08 07:15	2014-08-08 11:15
Oceanic	2014-07-04 09:56	2014-07-04 16:48
Oceanic	2014-07-05 11:57	2014-07-05 14:49
Oceanic	2014-07-19 18:36	2014-07-19 20:36
Oceanic	2014-07-21 16:24	2014-07-21 18:06
Oceanic	2014-07-25 09:52	2014-07-25 12:14
Oceanic	2014-07-27 15:33	2014-07-27 17:46
Oceanic	2014-07-28 10:19	2014-07-28 11:36
Oceanic	2014-08-07 07:29	2014-08-07 10:25
Ocean Leader	2014-06-19 10:10	2014-06-19 14:20
Ocean Leader	2014-07-24 00:20	2014-07-24 08:59
Ocean Leader	2014-08-13 13:35	2014-08-13 18:05
Ocean Leader	2014-08-15 16:45	2014-08-15 23:00
Ocean Leader	2014-08-17 15:35	2014-08-17 18:40
Ocean Leader	2014-08-19 07:47	2014-08-19 10:40
Ocean Leader	2014-08-20 19:20	2014-08-21 01:15
Ocean Rover	2014-06-11 19:35	2014-06-11 20:30
Ocean Rover	2014-06-12 01:15	2014-06-12 06:40

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Ocean Rover	2014-06-17 05:10	2014-06-17 07:40
Ocean Rover	2014-06-23 03:45	2014-06-23 08:40
Ocean Rover	2014-06-26 12:35	2014-06-26 15:10
Ocean Rover	2014-06-26 22:30	2014-06-27 04:50
Ocean Rover	2014-06-30 14:05	2014-06-30 17:20
Ocean Rover	2014-06-30 21:55	2014-07-01 02:55
Ocean Rover	2014-07-04 08:00	2014-07-04 13:30
Ocean Rover	2014-07-17 08:45	2014-07-17 15:15
Ocean Rover	2014-07-27 06:40	2014-07-27 11:00
Ocean Rover	2014-07-29 07:25	2014-07-29 14:05
Ocean Rover	2014-07-31 00:20	2014-07-31 08:25
Ocean Rover	2014-08-18 15:55	2014-08-18 18:10
Ocean Rover	2014-08-23 13:15	2014-08-23 16:50
Ocean Rover	2014-08-24 00:05	2014-08-24 06:10
Pacific Challenger	2014-07-15 04:37	2014-07-15 08:25
Pacific Challenger	2014-07-17 19:07	2014-07-17 21:23
Pacific Challenger	2014-07-27 21:08	2014-07-27 23:40
Pacific Challenger	2014-08-05 06:30	2014-08-05 12:20
Pacific Challenger	2014-08-06 23:00	2014-08-07 05:25
Pacific Challenger	2014-08-19 05:40	2014-08-19 11:08
Pacific Challenger	2014-08-25 14:20	2014-08-25 15:00
Pacific Challenger	2014-08-25 23:30	2014-08-26 03:20
Pacific Challenger	2014-08-26 05:50	2014-08-26 08:40
Pacific Challenger	2014-08-30 22:00	2014-08-31 03:58
Pacific Challenger	2014-09-04 07:45	2014-09-04 12:28
Pacific Challenger	2014-09-04 13:55	2014-09-04 17:30
Pacific Challenger	2014-09-07 12:40	2014-09-07 16:45
Pacific Challenger	2014-09-09 09:30	2014-09-09 14:00
Pacific Challenger	2014-09-16 15:55	2014-09-17 01:10
Pacific Explorer	2014-07-14 09:10	2014-07-14 10:30
Pacific Explorer	2014-07-21 20:45	2014-07-22 09:30
Pacific Explorer	2014-07-29 17:30	2014-07-30 00:05
Pacific Explorer	2014-08-22 12:30	2014-08-22 22:16
Pacific Explorer	2014-08-25 15:06	2014-08-25 17:03
Pacific Explorer	2014-09-03 09:40	2014-09-03 18:30
Pacific Explorer	2014-09-13 01:10	2014-09-13 04:47
Pacific Explorer	2014-09-20 00:32	2014-09-20 11:48
Pacific Fury	2014-06-16 05:35	2014-06-16 09:15
Pacific Fury	2014-06-19 17:05	2014-06-19 20:55
Pacific Fury	2014-06-22 23:40	2014-06-23 00:55

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Pacific Fury	2014-06-25 12:55	2014-06-25 16:57
Pacific Fury	2014-07-02 07:35	2014-07-02 13:20
Pacific Fury	2014-07-04 07:40	2014-07-04 08:50
Pacific Fury	2014-08-18 01:30	2014-08-18 06:35
Pacific Fury	2014-08-20 06:05	2014-08-20 11:05
Pacific Fury	2014-08-25 09:15	2014-08-25 14:55
Pacific Fury	2014-08-28 09:45	2014-08-28 18:40
Pacific Fury	2014-08-29 10:50	2014-08-29 14:05
Pacific Fury	2014-09-04 16:55	2014-09-04 23:00
Pacific Fury	2014-09-08 06:00	2014-09-08 14:10
Pacific Glacier	2014-06-10 19:20	2014-06-10 21:40
Pacific Glacier	2014-06-28 15:25	2014-06-28 17:10
Pacific Glacier	2014-07-04 00:35	2014-07-04 05:38
Pacific Glacier	2014-07-05 14:11	2014-07-05 16:40
Pacific Glacier	2014-07-06 10:35	2014-07-06 13:30
Pacific Glacier	2014-07-08 04:10	2014-07-08 06:20
Pacific Glacier	2014-07-14 02:05	2014-07-14 09:37
Pacific Glacier	2014-07-14 15:55	2014-07-14 17:55
Pacific Glacier	2014-07-16 06:05	2014-07-16 12:15
Pacific Glacier	2014-07-19 15:12	2014-07-19 17:15
Pacific Glacier	2014-07-20 02:00	2014-07-20 08:55
Pacific Glacier	2014-07-23 21:25	2014-07-23 23:05
Pacific Glacier	2014-07-24 14:10	2014-07-24 17:30
Pacific Glacier	2014-07-24 18:25	2014-07-24 23:00
Pacific Glacier	2014-07-26 17:00	2014-07-26 20:45
Pacific Glacier	2014-07-26 22:05	2014-07-27 01:20
Pacific Glacier	2014-07-27 23:15	2014-07-28 03:30
Pacific Glacier	2014-07-28 06:20	2014-07-28 12:10
Pacific Glacier	2014-07-29 07:00	2014-07-29 13:10
Pacific Glacier	2014-08-03 11:20	2014-08-03 14:40
Pacific Glacier	2014-08-07 04:50	2014-08-07 09:00
Pacific Glacier	2014-08-07 11:45	2014-08-07 13:00
Pacific Glacier	2014-08-08 03:05	2014-08-08 06:40
Pacific Glacier	2014-08-09 21:06	2014-08-10 01:15
Pacific Glacier	2014-08-10 05:00	2014-08-10 13:00
Pacific Glacier	2014-08-14 13:30	2014-08-14 13:50
Pacific Glacier	2014-08-15 03:05	2014-08-15 04:40
Pacific Glacier	2014-08-19 10:45	2014-08-19 16:20
Pacific Glacier	2014-08-23 21:30	2014-08-24 01:30
Pacific Glacier	2014-08-26 03:00	2014-08-26 07:50

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Pacific Glacier	2014-09-03 07:40	2014-09-03 12:05
Pacific Glacier	2014-09-04 13:10	2014-09-04 15:00
Pacific Glacier	2014-09-07 19:40	2014-09-08 01:50
Pacific Glacier	2014-09-10 14:45	2014-09-10 19:00
Pacific Glacier	2014-09-14 16:10	2014-09-14 17:45
Pacific Glacier	2014-09-16 10:25	2014-09-16 14:25
Pacific Glacier	2014-09-17 11:00	2014-09-17 12:25
Pacific Glacier	2014-09-17 14:35	2014-09-17 17:40
Pacific Prince	2014-06-14 11:36	2014-06-14 21:46
Pacific Prince	2014-06-15 21:13	2014-06-16 07:36
Pacific Prince	2014-06-18 23:33	2014-06-19 10:32
Pacific Prince	2014-06-23 03:43	2014-06-23 08:23
Pacific Prince	2014-06-26 01:42	2014-06-26 05:42
Pacific Prince	2014-07-03 09:40	2014-07-03 15:10
Pacific Prince	2014-07-06 20:35	2014-07-07 01:55
Pacific Prince	2014-07-31 13:30	2014-07-31 22:05
Pacific Prince	2014-08-22 11:05	2014-08-22 21:10
Pacific Prince	2014-09-06 09:20	2014-09-06 20:50
Pacific Prince	2014-09-07 00:45	2014-09-07 11:05
Pacific Prince	2014-09-17 01:35	2014-09-17 14:35
Pacific Ram	2014-06-10 13:37	2014-06-10 16:25
Pacific Ram	2014-06-11 10:41	2014-06-11 11:32
Pacific Ram	2014-06-11 12:39	2014-06-11 15:59
Pacific Ram	2014-06-21 10:34	2014-06-21 15:11
Pacific Viking	2014-06-21 00:00	2014-06-21 04:07
Pacific Viking	2014-07-14 00:23	2014-07-14 13:59
Pacific Viking	2014-07-21 01:19	2014-07-21 11:29
Pacific Viking	2014-07-21 19:22	2014-07-21 23:49
Pacific Viking	2014-09-01 19:14	2014-09-01 22:58
Pacific Viking	2014-09-16 16:46	2014-09-16 20:46
Peggy Jo	2014-06-10 12:20	2014-06-10 13:55
Peggy Jo	2014-06-21 07:00	2014-06-21 10:00
Peggy Jo	2014-06-21 20:20	2014-06-21 23:59
Peggy Jo	2014-06-30 13:20	2014-06-30 16:40
Peggy Jo	2014-08-11 09:00	2014-08-11 12:40
Peggy Jo	2014-08-11 18:15	2014-08-11 22:30
Peggy Jo	2014-08-12 00:15	2014-08-12 14:40
Poseidon	2014-06-16 13:32	2014-06-16 15:32
Poseidon	2014-08-09 19:00	2014-08-10 10:00
Poseidon	2014-08-21 16:00	2014-08-21 23:30

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Poseidon	2014-08-22 01:00	2014-08-22 11:00
Progress	2014-06-14 22:20	2014-06-15 03:45
Progress	2014-06-17 13:05	2014-06-17 19:20
Progress	2014-07-06 18:15	2014-07-06 20:20
Progress	2014-07-30 01:20	2014-07-30 11:40
Progress	2014-08-05 00:10	2014-08-05 09:45
Progress	2014-08-08 15:45	2014-08-08 17:50
Royal American	2014-07-11 16:35	2014-07-12 09:05
Royal American	2014-07-22 03:20	2014-07-22 16:46
Royal American	2014-07-30 18:30	2014-07-31 09:15
Royal American	2014-08-23 12:50	2014-08-23 17:50
Royal Atlantic	2014-06-17 14:19	2014-06-17 20:35
Royal Atlantic	2014-06-19 02:35	2014-06-19 10:11
Royal Atlantic	2014-06-22 22:11	2014-06-22 23:39
Royal Atlantic	2014-07-19 22:27	2014-07-20 08:51
Royal Atlantic	2014-08-19 19:13	2014-08-19 23:02
Royal Atlantic	2014-08-24 12:47	2014-08-24 22:37
Royal Atlantic	2014-08-24 23:58	2014-08-25 06:03
Royal Atlantic	2014-08-25 08:48	2014-08-25 22:51
Royal Atlantic	2014-08-28 13:11	2014-08-28 20:31
Seadawn	2014-06-19 21:20	2014-06-20 06:49
Seadawn	2014-06-20 08:15	2014-06-20 15:35
Seadawn	2014-07-04 14:28	2014-07-04 17:45
Seadawn	2014-07-05 04:21	2014-07-05 05:46
Seadawn	2014-07-20 12:50	2014-07-20 19:03
Seadawn	2014-08-06 09:36	2014-08-06 13:25
Seadawn	2014-08-12 15:11	2014-08-13 02:10
Seadawn	2014-08-15 18:30	2014-08-16 10:30
Seadawn	2014-08-16 12:15	2014-08-16 17:50
Seattle Enterprise	2014-06-10 12:10	2014-06-10 13:10
Seattle Enterprise	2014-06-16 07:15	2014-06-16 09:15
Seattle Enterprise	2014-06-27 09:00	2014-06-27 14:10
Seattle Enterprise	2014-07-04 17:45	2014-07-04 20:40
Seattle Enterprise	2014-07-09 00:40	2014-07-09 02:20
Seattle Enterprise	2014-07-10 04:30	2014-07-10 05:35
Seattle Enterprise	2014-07-16 08:20	2014-07-16 11:05
Seattle Enterprise	2014-07-20 10:05	2014-07-20 12:25
Seattle Enterprise	2014-07-23 21:50	2014-07-24 04:10
Seattle Enterprise	2014-07-25 14:50	2014-07-25 15:15
Seattle Enterprise	2014-07-27 12:50	2014-07-27 13:05

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Seattle Enterprise	2014-07-28 02:10	2014-07-28 05:50
Seattle Enterprise	2014-07-28 21:25	2014-07-29 05:55
Seattle Enterprise	2014-08-05 21:15	2014-08-06 05:25
Seattle Enterprise	2014-08-07 00:40	2014-08-07 03:15
Seattle Enterprise	2014-08-17 18:35	2014-08-17 19:45
Seattle Enterprise	2014-08-24 00:05	2014-08-24 02:55
Seattle Enterprise	2014-09-01 18:25	2014-09-01 22:00
Seattle Enterprise	2014-09-08 15:35	2014-09-08 19:45
Seattle Enterprise	2014-09-09 14:50	2014-09-09 22:55
Sea Wolf	2014-07-15 00:10	2014-07-15 09:40
Sea Wolf	2014-07-18 17:45	2014-07-18 20:20
Sea Wolf	2014-07-23 00:45	2014-07-23 11:10
Sovereignty	2014-06-11 15:00	2014-06-11 17:05
Sovereignty	2014-06-25 19:30	2014-06-25 21:00
Sovereignty	2014-06-28 08:15	2014-06-28 14:20
Sovereignty	2014-07-15 10:00	2014-07-15 17:45
Sovereignty	2014-07-15 18:45	2014-07-16 13:20
Sovereignty	2014-07-22 10:00	2014-07-22 15:30
Sovereignty	2014-08-15 10:00	2014-08-15 13:00
Sovereignty	2014-08-19 16:15	2014-08-19 23:30
Starbound	2014-06-16 03:25	2014-06-16 08:45
Starbound	2014-06-17 18:30	2014-06-17 21:25
Starbound	2014-06-22 22:00	2014-06-23 02:55
Starbound	2014-06-23 11:15	2014-06-23 11:55
Starbound	2014-06-25 13:40	2014-06-25 16:45
Starbound	2014-06-27 02:20	2014-06-27 06:15
Starbound	2014-06-28 12:35	2014-06-28 16:50
Starbound	2014-07-07 17:45	2014-07-08 00:15
Starbound	2014-07-18 14:00	2014-07-18 19:55
Starbound	2014-07-20 01:00	2014-07-20 08:05
Starbound	2014-07-22 06:10	2014-07-22 14:15
Starbound	2014-07-27 22:05	2014-07-28 01:30
Starbound	2014-07-28 06:35	2014-07-28 11:09
Starbound	2014-07-30 21:25	2014-07-30 23:30
Starbound	2014-08-12 23:00	2014-08-13 04:50
Starbound	2014-08-22 09:32	2014-08-22 14:08
Starbound	2014-08-23 07:20	2014-08-23 10:33
Starbound	2014-08-24 15:45	2014-08-24 20:15
Starbound	2014-09-05 15:10	2014-09-05 18:40
Starbound	2014-09-08 08:38	2014-09-08 09:08

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Starbound	2014-09-16 06:50	2014-09-16 11:38
Starbound	2014-09-17 15:08	2014-09-17 17:05
Starbound	2014-09-19 09:08	2014-09-19 13:05
Starbound	2014-09-19 14:15	2014-09-19 19:45
Starbound	2014-09-21 07:15	2014-09-21 13:50
Starbound	2014-09-25 19:16	2014-09-26 01:00
Starbound	2014-09-26 07:05	2014-09-26 13:32
Starbound	2014-09-29 02:45	2014-09-29 10:15
Starbound	2014-09-29 11:04	2014-09-29 16:43
Starbound	2014-09-29 17:20	2014-09-29 22:25
Starbound	2014-09-30 10:33	2014-09-30 15:19
Starbound	2014-10-01 01:20	2014-10-01 07:00
Starbound	2014-10-02 07:55	2014-10-02 15:39
Starfish	2014-06-21 21:00	2014-06-22 03:00
Starfish	2014-06-26 13:45	2014-06-26 22:45
Starfish	2014-07-16 20:00	2014-07-17 00:05
Starfish	2014-08-05 19:30	2014-08-05 22:15
Starfish	2014-08-26 19:20	2014-08-26 21:25
Starlite	2014-06-14 10:45	2014-06-14 20:45
Starlite	2014-07-14 14:15	2014-07-14 18:25
Starlite	2014-07-24 19:15	2014-07-25 12:20
Starward	2014-08-22 14:45	2014-08-22 23:00
Starward	2014-08-27 00:00	2014-08-27 03:30
Starward	2014-09-03 05:10	2014-09-03 11:30
Storm Petrel	2014-06-20 14:30	2014-06-20 19:30
Storm Petrel	2014-07-16 19:35	2014-07-17 11:30
Storm Petrel	2014-07-17 15:15	2014-07-17 23:55
Storm Petrel	2014-08-05 09:30	2014-08-05 16:00
Traveler	2014-07-12 23:45	2014-07-13 06:56
Traveler	2014-07-13 20:10	2014-07-13 23:00
Traveler	2014-07-15 11:15	2014-07-15 14:20
Traveler	2014-07-15 22:35	2014-07-16 05:10
Traveler	2014-07-20 10:25	2014-07-20 13:05
Traveler	2014-07-21 00:10	2014-07-21 10:20
Traveler	2014-07-24 18:40	2014-07-25 04:05
Traveler	2014-07-26 03:05	2014-07-26 10:50
Traveler	2014-07-28 10:10	2014-07-28 13:40
Traveler	2014-07-28 12:40	2014-07-28 15:10
Traveler	2014-08-05 03:30	2014-08-05 12:10
Traveler	2014-08-07 10:45	2014-08-07 11:50

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Traveler	2014-08-10 16:45	2014-08-10 21:15
Traveler	2014-08-11 06:30	2014-08-11 15:20
Traveler	2014-08-13 14:25	2014-08-13 18:40
Traveler	2014-08-15 18:00	2014-08-16 06:40
Traveler	2014-08-17 15:30	2014-08-17 17:40
Vanguard	2014-06-11 00:41	2014-06-11 07:06
Vanguard	2014-06-14 05:08	2014-06-14 08:34
Vanguard	2014-06-20 08:52	2014-06-20 17:00
Vanguard	2014-06-26 01:42	2014-06-26 08:57
Vanguard	2014-06-26 09:24	2014-06-26 12:41
Vanguard	2014-06-27 21:00	2014-06-28 01:16
Vanguard	2014-06-28 15:54	2014-06-29 00:41
Vanguard	2014-06-29 09:29	2014-06-29 10:27
Vanguard	2014-07-05 03:17	2014-07-05 09:27
Vanguard	2014-07-12 11:41	2014-07-12 13:12
Viking	2014-06-13 17:01	2014-06-13 18:16
Viking	2014-06-17 19:47	2014-06-18 04:00
Viking	2014-06-22 15:05	2014-06-23 04:37
Viking	2014-08-02 13:59	2014-08-02 15:58
Viking	2014-08-17 06:30	2014-08-17 10:03
Viking	2014-08-24 11:11	2014-08-24 14:12
Viking	2014-09-04 22:55	2014-09-05 10:54
Viking	2014-09-05 13:25	2014-09-05 16:22
Viking Explorer	2014-08-09 11:40	2014-08-09 17:40
Viking Explorer	2014-08-11 21:00	2014-08-11 21:40
Viking Explorer	2014-09-09 10:00	2014-09-09 14:45
Walter N	2014-06-29 07:45	2014-06-29 12:10
Walter N	2014-07-04 21:00	2014-07-05 04:25
Walter N	2014-07-06 23:00	2014-07-07 00:30
Western Dawn	2014-06-12 10:40	2014-06-12 15:00
Western Dawn	2014-06-15 21:10	2014-06-16 07:20
Western Dawn	2014-06-21 20:24	2014-06-21 21:40
Western Dawn	2014-08-05 02:15	2014-08-05 13:35
Western Dawn	2014-08-18 10:30	2014-08-18 15:35
Western Dawn	2014-08-19 22:20	2014-08-20 00:30
Western Dawn	2014-08-28 07:10	2014-08-28 16:45
Western Dawn	2014-08-29 21:10	2014-08-30 03:30
Western Dawn	2014-09-09 17:35	2014-09-10 03:10
Westward I	2014-06-10 15:20	2014-06-10 18:35
Westward I	2014-07-08 10:55	2014-07-08 15:15

Appendix 1. Continued.

Vessel	Deploy Date/Time	Retrieve Date/Time
Westward I	2014-07-13 15:05	2014-07-13 21:10
Westward I	2014-07-26 15:00	2014-07-26 21:00
Westward I	2014-08-13 11:00	2014-08-13 11:35
Westward I	2014-08-29 01:05	2014-08-29 13:30

Appendix 2. Candidate violations and verdicts by ABR and Sea State, Inc., for a selected subset (10% observed hauls by sector) of the Bering Sea pollock fishery, 2014.

Vessel	Location Date/Time	ABR Verdict	Sea State Verdict	Agree?
Anita J	2014-08-27 15:56	No violation	OK	Yes
Anita J	2014-08-27 16:26	No violation	OK	Yes
Anita J	2014-08-27 16:56	No violation	OK	Yes
Anita J	2014-08-27 18:28	No violation	OK	Yes
Anita J	2014-08-27 18:58	No violation	OK	Yes
Anita J	2014-08-27 19:28	No violation	OK	Yes
Anita J	2014-08-27 19:58	No violation	OK	Yes
Anita J	2014-08-27 20:28	No violation	OK	Yes
Anita J	2014-08-27 20:58	No violation	OK	Yes
Anita J	2014-08-27 22:00	No violation	OK	Yes
Anita J	2014-08-27 22:30	No violation	OK	Yes
Argosy	2014-07-11 12:14	No violation	OK	Yes
Argosy	2014-07-11 12:44	No violation	OK	Yes
Argosy	2014-07-11 13:14	No violation	OK	Yes
Argosy	2014-07-11 13:44	No violation	OK	Yes
Argosy	2014-07-11 15:46	No violation	OK	Yes
Argosy	2014-07-11 16:16	No violation	OK	Yes
Argosy	2014-07-11 16:46	No violation	OK	Yes
Cape Kiwanda	2014-07-16 15:42	No violation	OK	Yes
Cape Kiwanda	2014-07-16 16:12	No violation	OK	Yes
Cape Kiwanda	2014-07-16 16:42	No violation	OK	Yes
Cape Kiwanda	2014-07-16 17:12	No violation	OK	Yes
Cape Kiwanda	2014-07-16 19:10	No violation	OK	Yes
Cape Kiwanda	2014-07-16 19:40	No violation	OK	Yes
Cape Kiwanda	2014-07-16 20:10	No violation	OK	Yes
Cape Kiwanda	2014-07-16 20:40	No violation	OK	Yes
Great Pacific	2014-07-29 03:01	No violation	OK	Yes
Great Pacific	2014-07-29 03:30	No violation	OK	Yes
Great Pacific	2014-07-29 04:00	No violation	OK	Yes
Great Pacific	2014-08-06 20:01	No violation	OK	Yes
Great Pacific	2014-08-06 20:30	No violation	OK	Yes
Great Pacific	2014-08-06 21:01	No violation	OK	Yes
Great Pacific	2014-08-06 22:31	No violation	OK	Yes
Great Pacific	2014-08-06 23:00	No violation	OK	Yes
Great Pacific	2014-08-06 23:32	No violation	OK	Yes
Great Pacific	2014-08-07 00:00	No violation	OK	Yes
Great Pacific	2014-08-07 00:31	No violation	OK	Yes
Great Pacific	2014-08-07 01:02	No violation	OK	Yes
Great Pacific	2014-08-07 01:32	No violation	OK	Yes

Appendix 2. Continued.

Vessel	Location Date/Time	ABR Verdict	Sea State Verdict	Agree?
Great Pacific	2014-08-07 02:00	No violation	OK	Yes
Great Pacific	2014-08-07 02:30	No violation	OK	Yes
Great Pacific	2014-08-07 03:01	No violation	OK	Yes
Great Pacific	2014-08-07 03:31	No violation	OK	Yes
Great Pacific	2014-08-07 04:02	No violation	OK	Yes
Great Pacific	2014-08-07 04:30	No violation	OK	Yes
Great Pacific	2014-08-07 05:01	No violation	OK	Yes
Great Pacific	2014-08-07 05:30	No violation	OK	Yes
Great Pacific	2014-08-07 06:00	No violation	OK	Yes
Leslie Lee	2014-08-08 10:48	No violation	OK	Yes
Leslie Lee	2014-08-08 11:48	No violation	OK	Yes
Royal Atlantic	2014-08-28 13:20	No violation	OK	Yes
Royal Atlantic	2014-08-28 13:50	No violation	OK	Yes
Royal Atlantic	2014-08-28 14:20	No violation	OK	Yes
Royal Atlantic	2014-08-28 14:50	No violation	OK	Yes
Royal Atlantic	2014-08-28 15:20	No violation	OK	Yes
Royal Atlantic	2014-08-28 15:52	No violation	OK	Yes
Royal Atlantic	2014-08-28 16:22	No violation	OK	Yes
Royal Atlantic	2014-08-28 16:52	No violation	OK	Yes
Royal Atlantic	2014-08-28 17:22	No violation	OK	Yes
Royal Atlantic	2014-08-28 17:52	No violation	OK	Yes
Royal Atlantic	2014-08-28 18:22	No violation	OK	Yes
Royal Atlantic	2014-08-28 18:52	No violation	OK	Yes
Royal Atlantic	2014-08-28 19:22	No violation	OK	Yes
Royal Atlantic	2014-08-28 19:54	No violation	OK	Yes
Royal Atlantic	2014-08-28 20:24	No violation	OK	Yes