



16150  
01 July 2019

## MEMORANDUM

From: *A. J. Maffia* CDR  
A. J. Maffia, CDR  
CGD Nine (dpw)

To: COMDT (CG-WWM)  
Thru: CG LANTAREA (LANT-54)

Subj: 2018-2019 NINTH DISTRICT END OF SEASON ICE REPORT

Ref: (a) Domestic Icebreaking Operations Policy, COMDTINST 16151.1 (series)  
(b) Ninth District Domestic Icebreaking Standard Operating Procedures Manual, D9INST M16150.3 (series)

1. Per references (a) and (b), the Ninth District's annual domestic ice operations commenced 07 January 2019 and concluded on 26 April 2019.

### 2. Narrative Summary:

a. The 2018-2019 ice season was classified by the National Oceanographic Atmospheric Administration (NOAA) and the Great Lakes Environmental Research Laboratory (GLERL) as "Average," with Great Lakes ice cover reaching 75% on 06 March 2019. The commencement of both domestic icebreaking operations began in early January. Sustained cold temperatures settled upon the region causing rapid ice growth including a Polar Vortex event and below average temperatures at the end of January. Seasonally average temperatures would persist through the remainder of the winter. Although the percentage of ice cover was well above an average ice season, the overall thickness across the region was below average. Experts attribute this phenomenon to an above average snowfall, especially in the northern lakes.

b. Sector Sault Ste Marie commenced Operation Taconite 07 January 2019. During the 109 days of icebreaking operations, the six USCG cutters assigned to the operation spent a total of 3,986 hours of icebreaking to assist 590 commercial vessels transits; 155 of these transits required direct icebreaking assistance, which supported the movement of 11.5 million tons of dry bulk (iron ore, coal, stone, cement) and liquid (gasoline, diesel, heating oil) cargoes. These cargoes were valued at more than \$414 million. Operation Taconite secured on 26 April 2019.

c. Sector Detroit commenced Operation Coal Shovel on 18 January 2019. During the 66 days of icebreaking operations, the four USCG cutters assigned to the operation spent a total of 690 hours of icebreaking to assist 173 commercial vessel transits; 113 of these transits required direct icebreaking assistance, which supported the movement of an estimated 3.3 million tons of dry bulk cargo valued at \$122 million. Operation Coal Shovel secured on 24 March 2019,

however Canadian ice breaking efforts in Eastern Lake Erie were monitored for an additional 43 days until secured on 06 May 2019.

d. In total, the seven USCG cutters expended 4,676 resource hours in support of Ninth District icebreaking operations. The 10-year average is 4,978 resource hours.

e. The efforts of the cutters would not have been possible without the assistance of our valuable partners. AIRSTA Detroit, AIRSTA Traverse City, and CG Auxiliary conducted over flights providing Tactical Commanders with real time ice conditions. U.S. and Canadian Coast Guard, and Auxiliary aviators flew 32 sorties in support of Operations Taconite and Coal Shovel. This valuable aerial reconnaissance and ice analysis remained vital to operational planning and successful mission execution. NOAA and the Canadian Ice Service provided excellent forecasts and satellite imagery to further support operational planning. Lastly, our Canadian Coast Guard partners offered their expertise and services throughout the season. The participation of CCGS SAMUEL RISLEY, CCGS GRIFFON, CCGS AMUNDSEN, CCGS DES GROSEILLIERS, and CCGS PIERRE RADISSON coupled with the shore side support in Sarnia, Montreal, Ottawa, and Halifax ensured the successful execution of another icebreaking season. Additional information regarding Canadian Coast Guard support can be found in Enclosures (1) and (2).

f. The Ninth District and Canadian Coast Guard co-hosted a Great Lakes Icebreaking Conference in October 2018 in St. Catherines, Ontario, Canada along with our maritime industry partners, laying the groundwork for a successful ice season and covering vital lessons learned from the previous season. Additionally, ice rescue training was conducted by the Ninth District Ready for Operations team with all cutters to ensure continued SAR capability while underway. Icebreaking teleconferences were held throughout the winter with our maritime industry partners, which allowed the CCG and USCG to ensure the best placement of assets based on forecasted predictions and scheduled vessel movements.

### **3. Winter Severity:**

a. While the winter of 2018-2019 may have been categorized as an average icebreaking season, environmental conditions proved to be challenging due to a Polar Vortex in late January that rapidly formed ice. Additionally, persistent wide-swinging temperature fluctuations through February made track maintenance difficult. Ice jams coupled with high water levels in the major rivers put many coastal communities on flood alert. A heavy wind event in March pressurized massive amounts of ice in eastern Lake Erie which created pressure ridges that were several feet thick and required the attention of Canada's polar rated icebreakers.

b. The 2018-2019 winter season was shorter in duration in terms of icebreaking operations than the previous season. Above average temperatures in December allowed navigation to move unhindered by ice through the new year. Significant ice would not form until mid-January which is later than usual. Temperatures would persist below freezing and would spur above average ice coverage. Despite the high percentage of lake ice coverage, fluctuating temperatures and heavy snow caused the overall thickness to remain below average. Refer to Enclosure (1) climatological visuals for more detail.

c. The following summarizes the maximum ice conditions observed in key locations of the D9 AOR:

- (1) Eastern Lake Erie: 24-36" plate ice with 6-8' windrows.
- (2) Western Lake Erie/Maumee Bay: 12-18" plate ice with 2-4' windrows.
- (3) Detroit River: 6-12" free floating plate ice.
- (4) Lake St. Clair/St. Clair River: 12-18" plate ice with 2-4' brash accumulations.
- (5) Lake Huron: 12-18" plate ice with 5-7' windrows (along eastern shore).
- (6) Georgian Bay: 24-36" plate ice with 6" snow coverage.
- (7) Straits of Mackinac: 12-18" plate ice with 2-4' windrows.
- (8) Whitefish Bay: 18-24" plate ice with 5-7' windrows.
- (9) St. Mary's River: 12-18" plate ice with 6" snow coverage.
- (10) Western Lake Superior: 12" plate ice with 1-2' windrows.
- (11) Eastern Lake Superior: 12-18' plate ice with 6-8' brash accumulations.
- (12) Thunder Bay: 18-24" plate ice with 6" snow coverage.
- (13) Green Bay: 18-24" plate ice with 6" snow coverage.

#### **4. Economic Value:**

a. Estimated at \$536 million; \$414 million in Operation Taconite and \$122 million in Operation Coal Shovel.

b. The Lake Carriers Association (LCA) published economic data for the 2018-2019 ice season. LCA reported a 110% increase in cargo moved in the month of January from a year ago. This number was also 44% above the 5-year average. The month of March saw a 34% decrease in cargo from the previous year and a 19.7% drop in the 5-year average. Despite the drop in March, the year-to-date total remained more than the previous year. At the end of the ice season, the April total was 20.7% above the month's 5-year average and the year-to-date loads stood at an increase of 25% from 2018.

**5. Performance Standards and Data Collection:**

a. 99.7% of Domestic Icebreaking requests met.

(1) 798 ice breaking service requests made.

(2) 2 requests declined.

a. 28 January 2019: Algoma Central requested to delay the scheduled closure of the Green Bay Regulated Navigation Area. M/V ALGONOVA was unable to make the prescribed transit window into the Port of Green Bay. With public notification already executed, Incident Commander declined to keep the waterway opened.

b. 22 March 2019: Interlake Steamship Corporation and Central Marine Logistics Company requested Coast Guard icebreaking assistance for the Sturgeon Bay Ship Canal. The contracted commercial provider hired to facilitate carrier departures from Fincantieri Bay Shipbuilding Facility suffered an engine casualty. Four additional commercial providers stated their availability for the work. Incident Commander declined the request, referring to the commercial icebreaking policy as rationale.

b. Icebreaking Asset Availability:

(1) 4,676 total icebreaking operation hours.

(2) 3,192 scheduled Charlie hours.

(3) 4,371 unscheduled Charlie hours.

<b>Class</b>	<b>Total Days of Ice Season</b>	<b>Scheduled Maintenance</b>	<b>Unscheduled Maintenance</b>	<b>Total Maintenance Days</b>
WLBB (1)	109 days	21 days (19%)	1 day (1%)	22 days (20%)
WLB (2)	218 days	28 days (13%)	1 day (>1%)	29 days (13%)
WTGB (5)	545 days	84 days (15%)	179 days (33%)	263 days (48%)

c. A significant challenge during the 2018-2019 winter season was the large amount of lost cutter hours due to machinery casualties resulting in unscheduled Charlie periods. 88% of the lost cutter hours were due to the disabling casualties to BISCAYNE BAY and MORRO BAY which sidelined them for the majority of the season. This coupled with the absence of MOBILE BAY at Service Life Extension Project (SLEP) made for a challenging season.

d. The Great Lakes fleet experienced 4,371 lost cutter hours due to the following casualties:

(1) BRISTOL BAY: Steering casualty (steering gear pin); 106 hours.

- (2) MACKINAW: Flapper for Aux Generator; 8 hours.
  - (3) MORRO BAY: Both Main Diesel Engine (MDE) cross drives rebuild; 1,512 hours.
  - (4) HOLLYHOCK: Gyro compass reset; 10 hours.
  - (5) KATMAI BAY: ECDIS/Switchboard/#2 Prop Generator/Fathometer/Shaft Seal; 310 hours.
  - (6) ALDER: Aux seawater (ASW) cooler failure-Loss of cooling to MDE/Aux Systems; 8 hours.
  - (7) BISCAYNE BAY: Both Main Diesel Engine rebuild; 2,352 hours.
- e. A breakdown of cutter asset hours by icebreaking mission is captured in Enclosures (1) and (2).
- f. Tier 1 Waterways were open 95% of the ice season (9,507 hours of 9,992 total hours).

Waterway	Potential Availability	Actual Availability	Percentage Available
St. Clair River	1,584 hours	1,488 hours	94%
Detroit River	1,584 hours	1,488 hours	94%
Pelee Passage	1,584 hours	1,488 hours	94%
Straits of Mackinac	2,620 hours	2,576 hours	98%
St. Mary's River	2,620 hours	2,467 hours	94%
	9,992 hours	9,507 hours	95%

(1) Waterway restrictions and closures are outlined in the respective operational summaries below.

**6. Operation Coal Shovel:**

- a. Search and Rescue Response Requests: 1
- b. Urgent Vessel Response Requests: 1
- c. Exigent Community Service Requests: 4
- d. Vessel Direct Assists: 113 (8 US, 89 Canadian, and 16 foreign-flagged)
- e. Icebreaking Service Requests: 193
- f. Waterway Restrictions: 1

- g. Waterway Closures: 4
- h. Tier 1 Availability: 94% (4,464 hours of 4,752 total hours).
- i. Waterway Controls: In accordance with 33 CFR 162.134(d), Captain of the Port Detroit imposed a one-way traffic pattern on the St. Clair River during the end of January, all of February, and parts of March due to significant ice buildup causing ice jams and high water levels. This restriction required alternating one-way traffic and frequently required icebreaker escorts between Marine City, Michigan and Lake St. Clair.

**7. Operation Taconite:**

- a. Search and Rescue Response Requests: 3
  - b. Urgent Vessel Response Requests: 2
  - c. Exigent Community Service Requests: None
  - d. Vessel Direct Assists: 155 (72 US, 83 Canadian)
  - e. Icebreaking Service Requests: 605
  - f. Waterway Restrictions: 3 (St. Mary's River), totaling 22 hours of waterway restriction. MISLE WWM Activities: 6650073, 6653284, and 6654846.
  - g. Waterway Closures: 6 (5-St. Mary's River / 1-Straits of Mackinac) totaling 175 hours of waterway closure.
  - h. Planned Waterway Closures: Per 33 CFR Parts 162.117 and 165.901, the following waterways were purposely closed or restricted by the Captain of the Port Sault Sainte Marie.
    - (1) Grays Reef Passage: 07 January 2019 to 15 April 2019 (88 days)
    - (2) South Channel: 17 January 2019 to 29 March 2019 (71 days)
    - (3) Waters from Mackinac Island to St. Ignace: 28 January 2019 to 25 March 2019 (56 days)
    - (4) West Neebish Channel: 16 January 2019 to 31 March 2019 (74 days)
    - (5) Pipe Island Passage: 05 January 2019 to 24 March 2019 (78 days)
    - (6) Little Rapids Cut (Ice Boom): 05 December 2018 to 23 April 2019 (139 days)
  - i. Tier 1 Availability: 96% (5,043 hours of 5,240 total hours)
- 8. Statistical Summary:** The Statistical Data Summary for Operations Taconite and Coal Shovel 2018-2019 is included as Enclosure (1) and (2).

**9. Night Operations:** U.S. Coast Guard Cutters assigned to Operation Taconite and Operation Coal Shovel conducted 199 hours of icebreaking at night.

**10. Future Plans and Recommendations:**

a. The lapse in appropriations coupled with the partial government shutdown caused a great deal of confusion in terms of how to properly execute the domestic icebreaking mission. Message traffic received (ALCOAST 008/19) only specified the movement of critical energy supplies as an exempt mission yet it was later determined that the facilitation of all marine commerce was a matter of both safety and National Security. Recommend CG-WWM ensures that icebreaking in support of the facilitation of navigation is included in future guidance for continued operations during a lapse in appropriations.

b. Lost cutter hours continued to cripple the capabilities of the Ninth Districts' icebreaking mission. BISCAYNE BAY was sidelined the entire season due to a casualty experienced in January of 2018. Additionally, MORRO BAY suffered a casualty which caused them to miss more than half of the season. Had KATMAI BAY not operated on a "safe to sail" waiver for a damaged shaft seal, the lost cutter support figure would exceed 6,200 hours for the season. Additionally, a significant portion of lost cutter hours is attributable to purchasing and shipping delays. Recommend SFLC revisits the associated business rules to minimize impactful delay of parts, supplies, and services to operational cutters who are not mission capable. Prompt service and delivery are imperative to the successful completion of our DOMICE mission.

c. The ongoing operational effects of losing a WTGB to SLEP will continue into 2020. CGC BISCAYNE BAY absence will leave D9 with one less asset homeported in the Straits of Mackinac region which is a Tier 1 waterway. D9 will request additional support from Canadian icebreaking assets when necessary.

d. The Android Team Awareness Kit (ATAK) was a very effective tool that was employed this season by operation Coal Shovel for communicating conditions and pictures between icebreakers and ice officers. Prior to the start of the season, Sector Detroit Ice Officers and Enforcement Division trained cutters and ice observers on the use of ATAK. When a user posts a picture, all other users are notified and able to view the picture which allowed for the sharing of real time ice conditions and imagery. Users were able to draw and post different graphics on a real time map which proved to be useful for sharing where ice edges are located.

e. D9 (dpw) will continue to explore on the employment of Unmanned Aerial Systems (UAS) with CG-7114 which has proven to be a valuable and cost effective tool for the domestic icebreaking mission.

f. The temporary assignment of CGC ALDER to the Straits of Mackinac for the Winter Navigation Season was a success. Despite initial concerns raised by shipping industry officials, ALDER's presence in the Straits below the closed Sault Locks rendered no adverse impact to the opening of western Lake Superior ports and minimized the asset gaps created by the planned absence of CGC MOBILE BAY (SLEP) and the unplanned losses of CGC BISCAYNE BAY

and CGC MORRO BAY. Although it will not always be necessary to employ this temporary assignment every year, D9 (dpw) will keep this practice in mind for contingency planning purposes.

g. See Enclosures (1) and (2) for additional recommendations from the Tactical Commanders.

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Enclosures: (1) 2018-2019 Operation TACONITE End of Season Ice Report  
(2) 2018-2019 Operation COAL SHOVEL End of Season Ice Report

Copy: CGD One (dpw)  
CGD Five (dpw)  
CGC MACKINAW  
CGC HOLLYHOCK  
CGC ALDER  
CGC MOBILE BAY  
CGC BRISTOL BAY  
CGC NEAH BAY  
CGC BISCAYNE BAY  
CGC KATMAI BAY  
CGC MORRO BAY  
CG Sector Buffalo  
CG Sector Detroit  
CG Sector Lake Michigan  
CG Sector Sault Ste Marie  
CG AIRSTA Traverse City  
CG AIRSTA Detroit

U.S. Department of  
Homeland Security

United States  
Coast Guard



Commander  
United States Coast Guard  
Sector Sault Sainte Marie

337 Water Street  
Sault Sainte Marie, MI 49783  
Staff Symbol: vts  
Phone: (906) 635-3299  
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Email: mark.s.gill@uscg.mil

16150  
23 May 2019

## MEMORANDUM

From:  P. S. Nelson, CAPT  
CG SECTOR Sault Sainte Marie (s)

To: CGD NINE (d)  
Thru: (1) CGD NINE (dpw)  
(2) CGD NINE (dp)

Subj: OPERATION TACONITE, END OF SEASON REPORT

Ref: (a) Domestic Ice Breaking Operations Policy, COMDTINST 16151.1D  
(b) D9 Ice Breaking Standard Operating Procedures (SOP), D9INST M16150.2B

1. During the 2019 domestic ice-breaking season, the six U.S. Coast Guard cutters and two Canadian Coast Guard ships assigned to Operation Taconite spent a total of 4,181 hours in the ice and assisted 590 commercial vessel transits. Of these transits, 155 (72 US, 83 CA) required direct icebreaker assistance to complete their intended movements.
2. Operation Taconite commenced on 07 January and ended on 26 April 2019. Great Lakes maritime industry stakeholders estimate 11.5 million tons of dry bulk (iron ore, salt, coal, stone and cement) and liquid (gasoline, diesel, and home heating oil) cargoes received ice-breaking assistance during the 2019 winter navigation season. These cargoes, valued at more than \$414 million, provided critical industrial production and power generation capability for the Great Lakes region during the 109-day operational period. In Operation Taconite's area of responsibility, U.S. Coast Guard cutters delivered 239 hours of ice breaking in Canadian waters and Canadian Coast Guard ships conducted 195 hours of icebreaking in U.S. waters.
3. The National Oceanographic Atmospheric Administration (NOAA), with input provided by the Great Lakes Environmental Research Laboratory (GLERL), classified the 2019 ice season as "average." An analysis of the 2019 winter weather and ice thickness measurements appears in enclosure 1. Enclosure 2 contains the performance measures and statistical data summaries required by references (a) and (b). Enclosure 3 contains recommendations for process improvement.

Subj: OPERATION TACONITE END OF SEASON REPORT

16150

23 May 2019

4. My point of contact for domestic icebreaking operations is Mr. Mark Gill, the Director of Vessel Traffic Service St. Marys River. You can reach Mr. Gill at (906) 635-3299.

#

3 Enclosures

Copy: CG-5PW

All CGD NINE Sectors and Cutters

CG AIRSTA Traverse City

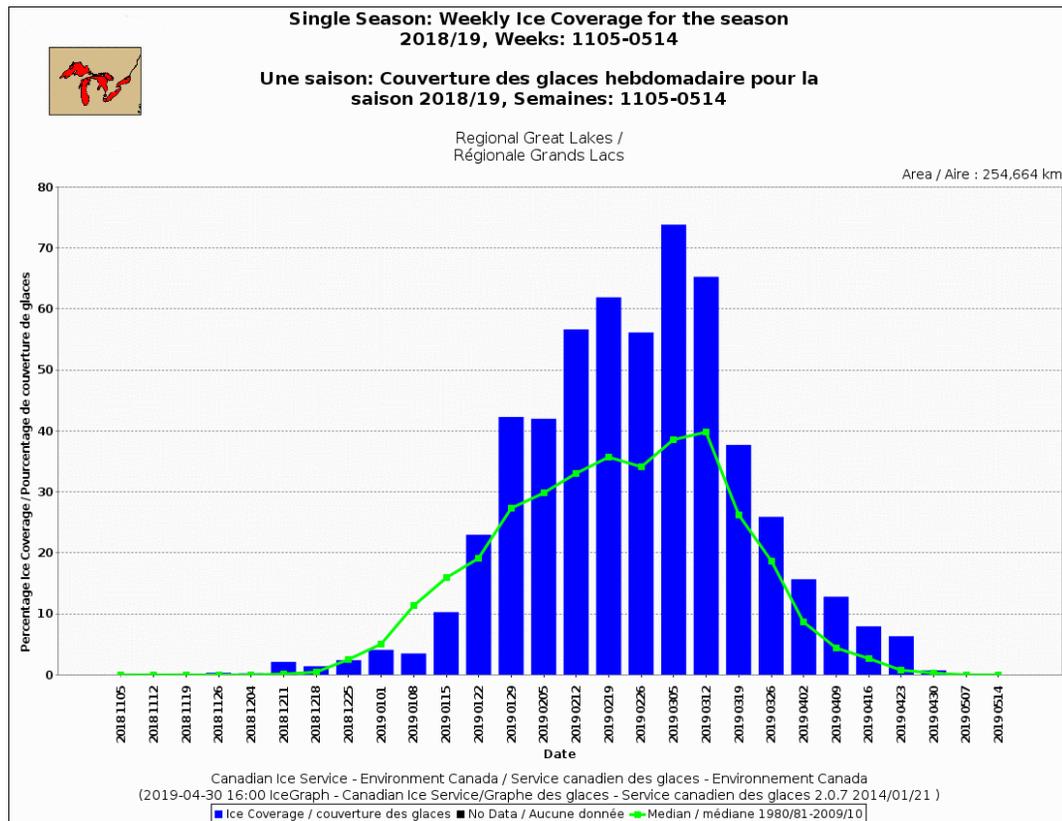
MSU Duluth

## Weather Analysis and Ice Thickness Measurements:

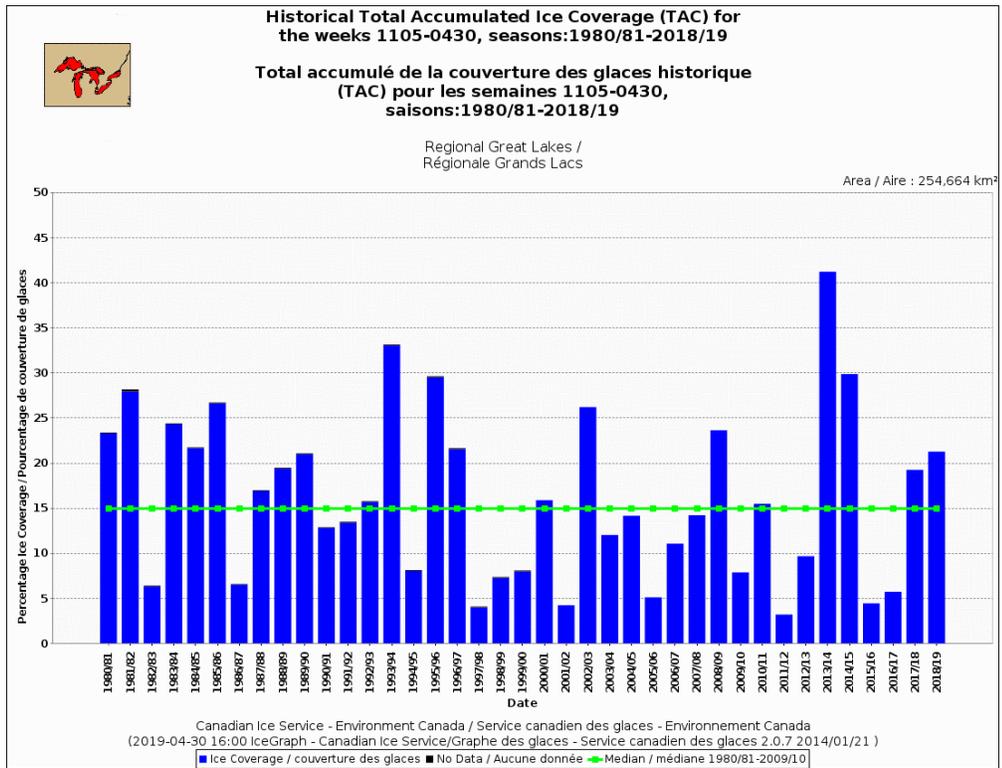
The National Oceanographic Atmospheric Administration (NOAA), with input provided by the Great Lakes Environmental Research Laboratory (GLERL), classified the 2019 ice season as “average”. Great Lakes percentage of ice cover peaked at 75% on March 06, 2019. Lake Superior’s percentage of ice cover reached 93% on March 07, 2019. Although the percentage of ice cover was higher than average, the thickness of ice across the area of responsibility was below average. Many experts attribute this phenomenon to above average snowfall for many parts of the region.

The following table summarizes the maximum ice conditions observed in key locations of the Operation Taconite area of responsibility.

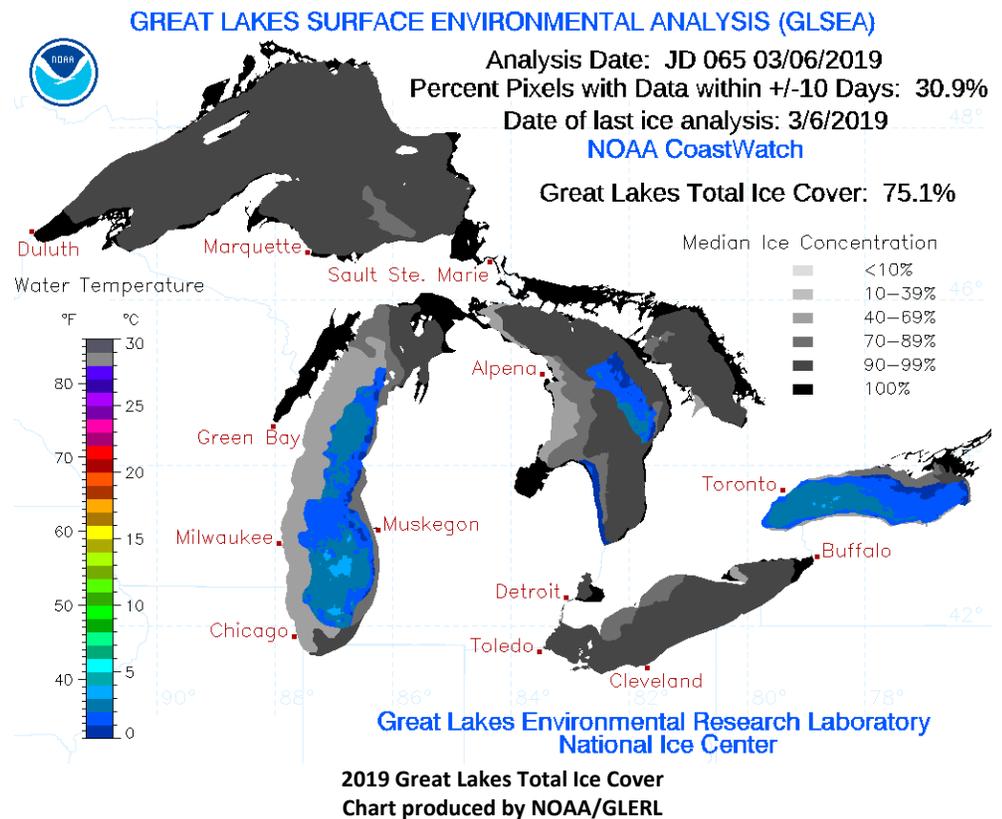
- a. Thunder Bay: 18-24” plate ice with 6” snow cover.
- b. Duluth-Superior: 12-18” plate ice with 1’ brash accumulations.
- c. Lake Superior (west): 12” plate ice with 1-2’ windrows.
- d. Lake Superior (east): 12-18” plate ice w/ 6-8’ brash accumulations.
- e. Whitefish Bay: 18-24” plate ice with 6” snow cover.
- f. St. Marys River: 12-18” plate ice with 6” snow cover.
- g. Straits of Mackinac: 12-18” plate ice with 2-4’ windrows.
- h. Green Bay (North): 18-24” plate ice with 6” snow cover.
- i. Green Bay (South): 12-18” plate ice with 6” snow cover.
- j. Georgian Bay: 24-36” plate ice with 6” snow cover.



**Single Season: Weekly Ice Coverage  
Compared to the Median (1981-2010)**  
Chart produced by the Canadian Ice Service



**Great Lakes Total Accumulated Ice Coverage 1980-2019**  
**Compared to the Median (1981-2010)**  
 Chart produced by the Canadian Ice Service



## 1. Performance Measures:

- a. Search and Rescue Response Requests: Three events (MISLE Cases 1160605, 1161409, and 1168517).
- b. Urgent Vessel Assistance Requests: Two events (MISLE WWM Activities 6650073 and 6652817).
- c. Exigent Community Service Requests: None.
- d. Icebreaking Service Requests: The Incident Commander (IC) received 605 requests for ice breaking assistance; 2 requests declined.
  - 1. 28 January 2019: Algoma Central requested to delay COTP Lake Michigan's 30 January closure of the Green Bay Regulated Navigation Area. M/T ALGONOVA was unable to make the prescribed transit window for the second of two tanker transits scheduled for the Port of Green Bay. With public notification already executed, I/C declined to keep the waterway open.
  - 2. 22 March 2019: Interlake Steamship Corporation and Central Marine Logistics Company requested Coast Guard icebreaking assistance for the Sturgeon Bay Ship Canal. The contracted commercial provider hired to facilitate carrier departures from Fincantieri Bay Shipbuilding Facility suffered an engine casualty. Four additional commercial providers stated their availability for the work. I/C declined the request, citing the district's commercial icebreaking policy as the rationale.
- e. Vessel Transits Assisted: Op Taconite resources assisted 590 vessel transits. Of the total transits assisted, 155 vessels (72 U.S. and 83 CA) required direct ice breaking assistance to complete their intended movements.
- f. Waterway Restrictions: There were three events (03-SMR), totaling 22 hours of waterway restriction. MISLE WWM Activities: 6650073, 6653284, and 6654846 document the events.
- g. Waterway Closures: There were six events (05-SMR / 01-Straits) totaling 175 hours of waterway closure. MISLE WWM Activities: 6647964, 6652409, 6652917, 6655136, 6655951, along with 6657403 document the events
- h. Tier 1 Availability: 96% (Avg 2522 of 2620)  
St Marys River 94%; 2467 of a possible 2620 hours.  
Straits of Mackinac 98%; 2576 of a possible 2620 hours.
  - 1. Extended Navigation Season: St Marys River 100% (336/336) / Straits 100% (336/336)
  - 2. Winter Navigation Season: St Marys River 100% (1176/1176) / Straits 100% (1176/1176)
  - 3. Spring Break Out: St Marys River 86% (955/1108) / Straits 96% (1064/1108)

i. Planned Waterway Closures: Per 33 CFR Parts 162.117 and 165.901, the following waterways were purposely closed or restricted by the Captain of the Port Sault Sainte Marie.

- |   |                                   |
|---|-----------------------------------|
| 1. Grays Reef Passage:                      | 17-Jan-19 to 15 Apr-19 (88 days)  |
| 2. South Channel:                           | 17 Jan-19 to 29-Mar-19 (71 days)  |
| 3. Waters Btwn Mackinac Is. and St. Ignace: | 28-Jan-19 to 25-Mar-19 (56 days)  |
| 4. West Neebish Channel:                    | 16-Jan-19 to 31-Mar-19 (74 days)  |
| 5. Pipe Island Passage:                     | 05 Jan-19 to 24-Mar-19 (78 days)  |
| 6. Little Rapids Cut (Ice Boom):            | 05-Dec-18 to 23-Apr-19 (139 days) |

**2. Statistical Summary:**

**a. Aerial Support:**

HH60	01 Sortie
CG Auxiliary	00 Sorties
CCG Dash-8	01 Sortie

**b. Cutter Employment:**

**Area 4A (Lake Huron / Georgian Bay / North Channel) – 155 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	02	000	000	00	00	105	00	01	00
Bristol Bay	00	040	000	00	00	008	00	00	00
<b>Totals</b>	<b>02</b>	<b>040</b>	<b>000</b>	<b>00</b>	<b>00</b>	<b>113</b>	<b>00</b>	<b>01</b>	<b>00</b>

**Area 4B (Lake Huron / Alpena / Calcite Hbr) - 11 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Hollyhock	00	006	000	00	00	000	00	00	00
Neah Bay	00	000	001	00	00	004	00	00	00
<b>Totals</b>	<b>00</b>	<b>006</b>	<b>001</b>	<b>00</b>	<b>00</b>	<b>004</b>	<b>00</b>	<b>00</b>	<b>00</b>

**Area 5A (Straits of Mackinac) - 1376 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	026	036	018	00	00	079	00	05	00
Alder	038	086	023	00	00	246	02	05	00
Hollyhock	072	059	000	06	00	077	05	08	00
Bristol Bay	028	018	026	05	00	120	08	02	00
Neah Bay	029	097	014	00	00	029	07	05	00
Katmai Bay	039	137	003	00	00	043	03	07	00
Pierre Radisson	000	000	010	00	00	012	00	00	00
<b>Totals</b>	<b>232</b>	<b>433</b>	<b>094</b>	<b>11</b>	<b>00</b>	<b>606</b>	<b>25</b>	<b>32</b>	<b>00</b>

**Area 5B (Charlevoix / Grand Traverse Bay) - No Cutter Activity**

**Area 6A (Whitefish Bay) – 926 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	046	148	046	00	00	181	32	20	00
Alder	000	000	011	00	00	000	00	00	00
Hollyhock	006	070	016	00	00	078	03	07	00
Neah Bay	002	077	000	00	00	107	00	00	00
Katmai Bay	006	049	000	00	00	044	01	00	00
Samuel Risley	000	000	015	00	00	024	00	00	00
<b>Totals</b>	<b>060</b>	<b>344</b>	<b>088</b>	<b>00</b>	<b>00</b>	<b>434</b>	<b>36</b>	<b>27</b>	<b>00</b>

**Area 6B (St Marys River - 1105 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	026	136	024	00	00	123	02	07	00
Alder	000	019	023	00	00	058	00	00	00
Hollyhock	000	000	004	00	00	000	00	00	00
Bristol Bay	002	016	005	00	00	027	01	01	00
Neah Bay	009	065	049	03	00	080	00	02	00
Katmai Bay	020	121	083	20	00	058	01	03	00
Samuel Risley	004	035	014	01	00	080	00	03	00
<b>Totals</b>	<b>061</b>	<b>392</b>	<b>202</b>	<b>24</b>	<b>00</b>	<b>426</b>	<b>04</b>	<b>16</b>	<b>00</b>

**Area 7A (Eastern Lake Superior / Marquette) – 24 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Neah Bay	000	000	008	00	00	016	00	00	00
<b>Totals</b>	<b>000</b>	<b>000</b>	<b>008</b>	<b>00</b>	<b>00</b>	<b>016</b>	<b>00</b>	<b>00</b>	<b>00</b>

**Area 7B (Central Lake Superior / Keweenaw) – 19 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Alder	000	000	009	00	00	010	00	00	00
<b>Totals</b>	<b>000</b>	<b>000</b>	<b>009</b>	<b>00</b>	<b>00</b>	<b>010</b>	<b>00</b>	<b>00</b>	<b>00</b>

**Area 8A (Duluth, Superior) - 77 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	00	000	024	00	00	000	00	00	00
Alder	00	013	004	00	00	036	00	00	00
<b>Totals</b>	<b>00</b>	<b>013</b>	<b>028</b>	<b>00</b>	<b>00</b>	<b>036</b>	<b>00</b>	<b>00</b>	<b>00</b>

**Area 8B (Two Hbrs, Silver Bay, Apostle Islands) - 23 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	00	005	002	00	00	000	00	00	00
Alder	13	000	003	00	00	000	03	01	00
<b>Totals</b>	<b>13</b>	<b>005</b>	<b>005</b>	<b>00</b>	<b>00</b>	<b>000</b>	<b>03</b>	<b>01</b>	<b>00</b>

**Area 8C (Thunder Bay, Ont) - 84 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Alder	04	042	000	00	00	038	00	02	00
<b>Totals</b>	<b>04</b>	<b>042</b>	<b>000</b>	<b>00</b>	<b>00</b>	<b>038</b>	<b>00</b>	<b>02</b>	<b>00</b>

**Area 9 (Green Bay, Escanaba, Marinette) - 261 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	07	046	010	00	00	039	00	04	00
Neah Bay	01	041	000	00	00	055	02	00	00
Katmai Bay	04	022	003	00	00	033	02	00	00
<b>Totals</b>	<b>12</b>	<b>109</b>	<b>013</b>	<b>00</b>	<b>00</b>	<b>127</b>	<b>04</b>	<b>04</b>	<b>00</b>

**Area 10A (Lake Michigan-West Milwaukee) No Cutter Activity**

**Area 10B (Lake Michigan-South Calumet-Gary-Indiana-Burns Hhrs) - 120 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Alder	00	000	000	00	00	120	00	00	00
<b>Totals</b>	<b>00</b>	<b>000</b>	<b>000</b>	<b>00</b>	<b>00</b>	<b>120</b>	<b>00</b>	<b>00</b>	<b>00</b>

**Area 10C (Lake Michigan-East Ludington) No Cutter Activity**

**Op Taconite Totals**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF	Total Hrs in the Ice
Mackinaw	107	371	124	00	00	0527	34	37	00	1129
Alder	055	160	073	00	00	0508	05	08	00	0796
Hollyhock	078	135	020	06	00	0155	08	15	00	0394
Bristol Bay	030	074	031	05	00	0155	09	03	00	0295
Neah Bay	041	280	072	03	00	0291	09	07	00	0687
Katmai Bay	069	329	089	20	00	0178	07	10	00	0685
Pierre Radisson	000	000	010	00	00	0012	00	00	00	0022
Samuel Risley	004	035	029	01	00	0104	00	03	00	0173
<b>Totals</b>	<b>384</b>	<b>1384</b>	<b>448</b>	<b>35</b>	<b>00</b>	<b>1930</b>	<b>72</b>	<b>83</b>	<b>00</b>	<b>4181</b>

**3. Night Operations:** U.S. Coast Guard cutters and Canadian Coast Guard ships assigned to Operation Taconite conducted 46 hours of nighttime ice breaking.

**4. Sufficiency/Adequacy of Icebreaking Assets:** Unsatisfactory; due to organizational failure to restore CGC BISCAYNE BAY and CGC MORRO BAY to operational service in time to meet icebreaking commitments.

<b>Seasonal Lost Cutter Hours</b>			
<b>Cutter</b>	<b>Casualty Related</b>	<b>Other - Logistics</b>	<b>Casualty (Unsked Charlie)</b>
MACKINAW	00	08	Flapper for Aux Generator
KATMAI BAY	284	26	ECDIS/Switchboard/Injured crew member / #2 PROPGEN/ Fathometer/Shaft Seal
ALDER	08	00	ASW Failure-Loss of cooling to MDE/Aux Systems
HOLLYHOCK	05	05	Gyro Error / Medical

## 5. MISLE Summary:

Planned Waterway Closures	Date Closed	Date Opened	Authority	Rmks
6606034	01/05/19	03/24/19	33 CFR 162.117	Pipe Island Channel - VTS SMR closed Pipe Island Channel until further notice. Pipe Island Course becomes an alternating one way route.
6611562	01/16/19	03/31/19	33 CFR 162.117	West Neebish Channel - VTS SMR closed the West Neebish Channel until further notice.
6611573	01/17/19	4/15/19	33 CFR 165.944	Grays Reef Passage - COTP SSM closed Grays Reef Passage until further notice.
6611579	01/17/19	03/29/19	33 CFR 165.944	South Channel - COTP SSM closed South Channel until further notice.
6616608	01/28/19	03/25/19	33 CFR 165.944	Moran Bay - COTP SSM closed the waters btwn Mackinac Island and St Ignace until further notice.
6616744	01/30/19	04/02/19	33 CFR 165.901	Southern Green Bay - COTP LM closed the southern Green Bay RNA until further notice.

Waterway Controls	Date Activated	Date Rescinded	Authority	Rmks
6592518	12/05/18	04/23/19	33 CFR 161.11	281450Z NOV 2017: The US Army Corps of Engineers commissioned Little Rapids Cut Lighted Ice Buoy 98B (LLNR 14105). The LIB marks the upstream end of the ice boom on the eastern side of the river, restricting the channel width to 385 ft. Due to the channel restriction, VTS ST Marys River directs no meeting or overtaking between LT 98 (LLNR 14100) and Mission Point Obstruction LT "C" (LLNR 14145). 231800Z Apr 19: USACE deactivated the ice control booms at Little Rapids Cut and decommissioned LIB 98B. VTS rescinded the one way traffic measure and restored two way movement to the waterway.
6650507	3/25/19	3/31/19	33 CFR 161.11	251100Z: With the West Neebish Channel closed, VTS SMR established a draft restriction of 26'6" to safe guard vessels transiting up and down the Middle Neebish Channel until further notice. 311200Z: VTS SMR River opened the West Neebish Channel. The draft restriction for the Middle Neebish Channel was rescinded.
6652385	3/31/19	4/9/19	33 CFR 161.11	To protect the West Neebish Channel from ice damage, VTS SMR directs minimum safe speed from West Neebish Channel LT 45 to West Neebish Channel LT 29 until further notice. A draft restriction of 27'6" is in place until further notice. 031100Z, with the threat of ice damage to the channel eliminated, VTS rescinded the draft restriction for the West Neebish Channel and modified the boundary of the speed directive, "Sand Island to West Neebish Channel LT 29. 091200Z, with no ice to threaten ferry operations, VTS SMR rescinded the speed measure placed on the West Neebish Channel.

Waterway Events	DTG Start	DTG Ended	Restriction Time	Rmks
6598723	12/17/18	4/17/19	33 CFR 207.440	171000Z Dec 18: MacArthur Lock Closure - USACE closed the MacArthur Lock for winter maintenance. 171900Z Apr 19: MacArthur Lock Reopened - USACE opened the MacArthur Lock for the 2019 Navigation Season.
6606364	1/7/2019	26-Apr	N/A	070100Z DEC 19: Commenced Op Taconite 261600Z APR 19: With the remaining ice cover no longer a hindrance to commercial navigation, COTP Sault Sainte Marie secured Operation Taconite. During the 109 days of the 2019 domestic icebreaking season (07 Jan – 26 Apr), the eight U.S. and Canadian Coast Guard vessels assigned to Operation TACONITE delivered 1,803 hours of icebreaking to the benefit of 590 vessel transits; 155 of these transits required direct ice breaking assistance. This work also served the needs of eight island communities and fulfilled 605 individual icebreaking service requests. These same icebreaking vessels put forth an additional 2,378 hours of preventative icebreaking to establish and maintain tracks in the ice choked waterways of Green Bay, the Straits of Mackinac, the St Marys River, Georgian Bay and western Lake Superior.  Industry officials estimate more than 11 million tons of dry bulk cargoes shipped during the 109 days of this op period. This translates to \$414 million dollars of commodities critical to power generation, industrial productivity and public safety, moved during the harsh winter months of the 2019 domestic ice-breaking season.
6611563	1/16/19	3/25/19	33 CFR 207.440	160250Z Jan 19: Poe Lock Closure - USACE closed the Poe Lock for winter maintenance. 250011Z MAR 19: USACE passed the STEWART J CORT (U/B) through the Poe Lock officially starting the 2019 Great Lakes Navigation Season.

Waterway Events	DTG Start	DTG Ended	Restriction Time	Rmks
1160605	1/30/19	1/30/19	N/A	SAR: 300005Z, SEC SSM received a request to MEDEVAC a 56-year-old female from the Mackinac Island Medical Clinic. The patient reported shortness of breath. The clinic was not able to conduct extensive testing to diagnose the patient. The clinic's doctor was concerned the patient may be suffering from a pulmonary embolism. Due to foul weather, no commercial medical flights were available. CGC KATMAI BAY, diverted from their transit to SEC SSM, transported the patient and paramedic from Mackinac Island to St Ignace. MISLE 1160605 documents the events of the SAR response.
1161409	2/7/19	N/A	N/A	071847Z, SEC SSM received a request to MEDEVAC a 72-year-old female from the Mackinac Island Medical Clinic. The patient reported chest pains, dizziness, and shortness of breath. The clinic was not able to conduct extensive testing to diagnose the patient. The clinic's doctor was concerned the patient may be suffering from a pulmonary/cardiac event. Due to foul weather, no flights were available. CGC ALDER sailed from STA St Ignace, transported the patient and paramedic from Mackinac Island to St Ignace. MISLE 1161409 documents the events of the SAR response.
6647964	232200Z MAR 19	251800Z MAR 19	40 hrs	232200Z STEWART J CORT (E/B in ballast for Two Hhrs) beset in ice near White Shoal. This vessel stopped by ice forced ALGOMA INNOVATOR (E/B in ballast for Windsor) to halt their progress constituting a waterway restriction. 241200Z STEWART J CORT backed down their track and came ahead freeing themselves. ALGOMA INNOVATOR sailed behind them but was unable to enter the CORTs track. This forced E/B M/Vs WILFRED SYKES, PAUL R TREGURTHA, and JAMES R BARKER and the W/B Tug SHARON M1 to halt their progress. CGC HOLLYHOCK is underway to assist. 241800Z CGC HOLLYHOCK requested additional I/B support due to the excessive windrows obstructing the western Straits. I/C dispatched CGC KATMAI BAY from the SMR to assist. 251800Z CGCs HOLLYHOCK and KATMAI BAY freed the beset vessels restoring east and west movement to the Straits. MISLE WWM Act 6647964 documents the 44-hour waterway closure. * Restriction lasting more than 24 hrs constitutes a closure.

Waterway Events	DTG Start	DTG Ended	Restriction Time	Rmks
6652409	260924Z MAR 19	271935Z MAR 19	34 hrs 11 mins	260924Z, due to a "plug" of ice (4nm x 20+ nm x 4') restricting vessels arriving and departing from Lake Superior. VTS St Marys River began to sequence vessels up and down to the locks. This created a waterway restriction lasting more than 24 hrs. 271935Z: With the plug lifted by SW winds, traffic moved in and out of Whitefish Bay without need of direct icebreaker assistance. MISLE WWM Act 6652409 documents the 34 hrs 11 mins waterway closure. * Restriction lasting more than 24 hrs constitutes a closure.
6650073	270659Z MAR 19	271310Z MAR 19	7 hrs 11 mins	270559Z M/V MESABI MINER (D/B with coal for St Clair, MI) beset at Winter Point. VTS SMR learned from the Sector Command Center that the vessel reportedly holed themselves in the ice and was taking on water. I/C dispatched CGC KATMAI BAY from the Straits of Mackinac to assist the vessel taking on water with an eta of 1100Z. The MINER stopping in the Middle Neebish Channel prevented the PAUL R TREGURTHA, JAMES R BARKER, and ALGOMA SAULT from advancing up the river. This also constituted a waterway restriction. 0651Z the MINER reported the hole to their #1 ballast tank (port) was flooding uncontrollably. The master planned to flood the tank and asked to transit to their next port to offload cargo then make temporary repairs. OCMI approved the request. 1310Z CGC KATMAI BAY freed the MESABI MINER and escorted them down through the lower river. VTS SMR called for the up bound movement of the three anchored vessels. The resultant waterway restriction was 7 hours. I/C classified the event as an urgent vessel assistance request due to the emergent nature of the assistance needed. MISLE WWM Act 6650073 documents the incident.
6652817	310703Z MAR 19	311000Z MAR 19	N/A	310703Z M/V WILFRED SYKES (W/B ore for Indiana Hbr) called the CGC NEAH BAY. The vessel beset in a shifting field of ice was concerned about going aground. CGC NEAH BAY, hove to in the ice near the SYKES, got underway and broke the vessel free from the plate. MISLE WWM Act 6652817 documents the urgent vessel assistance request.

Waterway Events	DTG Start	DTG Ended	Restriction Time	Rmks
6652971	311530Z MAR 19	020100Z APR 19	33 hrs 30 mins	311530Z CGC MACKINAW reported to VTS that the "plug" backed by the strong northwesterly winds resealed the north end of Whitefish Bay. Vessels are unable to enter or leave without direct icebreaker assistance. Because of the restriction to the north entrance to Whitefish Bay, VTS SMR is sequencing vessels to and from the locks to prevent a backlog of ships in WF Bay. 010100Z: CGC MACKINAW assisted seven down bound vessels through the plug before securing for the night. 020100Z: CGC MACKINAW completed their escort of five up bound vessels. SW winds eased the pressure on the north entrance to WF Bay. The resultant 33 hrs 30 mins waterway closure affected seven down bound and five up bound vessels. MISLE WWM ACT 6652917 documents the waterway closure.
6653284	010123Z APR 19	011230Z APR 19	11 hrs 7 Mins	010123Z: AMERICAN MARINER (U/B In ballast) beset at Winter Pt. The vessel stopping forced the AMERICAN SPIRIT to halt their progress and anchor. 011130Z: CGC KATMAI BAY u/w to assist. 011230Z: MARINER was freed and moving up bound. VTS called for the AMERICAN SPIRIT to continue their transit up the river. The resultant 11 hrs 07 min restriction affected two up bound vessels. MISLE WWM Act 6653284 documents the event.
6654846	030700Z APR 19	031100Z APR 19	4 hrs	030700Z: Strong NW winds released a field of thick lake ice into the path of the KAYE E BARKER (D/B). The ship stopped short of the ice and elected not to proceed until a breaker was available to assist. As a result, VTS SMR directed the SAGINAW (U/B) not to depart the Algoma Steel facility until further notice. 1100Z: The field of ice blocking the path of the KEB moved east of the ship's path allowing them to proceed. VTS SMR released the SAGINAW allowing them to sail. MISLE WWM Act 6654846 documents the 4-hour waterway restriction.

Waterway Events	DTG Start	DTG Ended	Restriction Time	Rmks
6655136	031600Z APR 19	041730Z APR 19	25 hrs 30 mins	031600Z: Strong northwesterly winds created hazardous ice conditions in WF Bay, VTS SMR closed the Upper St Marys River until further notice. 041200Z VTS SMR initiated the movement of three up bound vessels from the locks complex. 041200Z: VTS SMR initiated the movement of three up bound vessels from the Soo Locks. At the moment six down bound vessels and five up bound vessels are affected by the WW closure. 041730Z: With the restoration of up and down bound tracks through WF Bay, VTS SMR reopened the upper St Marys River to unrestricted movement. 6 d/b and 5 u/b vessels were affected by the 25 hrs 30 mins waterway closure. MISLE WWM ACT 6655136 documents the WW Closure.
6655951	041238Z APR 19	051100Z APR 19	22 hrs 22 mins	041238Z: JOHN J BOLAND (U/B in ballast for Silver Bay) beset at Winter Pt. Vessel unable to back down in the ice due to a discrepant ice buoy that drifted into the channel and now blocks the vessel's stern. As a result of the vessel stopping, PAUL R TREGURTHA was forced to halt their up bound progress which creates by definition a waterway restriction. CGC KATMAI BAY moored SEC SSM is tasked to assist. The cutter is refueling and has divers down to replace the transducer from the ship's fathometer. ETD 042000Z. 042200Z: CGC KATMAI BAY rpts the new transducer is cracked and unservicable. The divers replaced the exterior cover then the CO sought and received a safe to sail waiver from CCGD9. The cutter is underway w/o a fathometer, eta 050001Z. 050130Z: CGC KATMAI BAY arrived and freed the beset vessel. With the onset of darkness and the uncertain impact the discrepant buoy will have on overnight movements, VTS SMR will keep the Middle Neebish Channel closed until daybreak. 051100Z: VTS SMR opened the Middle Neebish Channel. Six upbound vessels affected by the 22 hr 22 min waterway closure.

Waterway Events	DTG Start	DTG Ended	Restriction Time	Rmks
6657403	071535Z APR 19	081235Z APR	21 hrs	CGC MACKINAW underway in route Mud Lake with an eta of 1730Z. 071830Z, CGC MACKINAW called for down bound movement. 072130Z, CGC MACKINAW recommends waterway closure until the winds shifts north. VTS SMR closed the VTS area until further notice. 081115Z, with CCGS GRIFFON, CGCS MACKINAW and NEAH BAY on scene, VTS SMR called for the restoration of down bound movement. 081235Z, with the risk to navigation abated, VTS SMR reopened the VTS area to unrestricted movement. MISLE WWM Act 6657403 documents the 15-hour waterway closure.
6661627	130830Z APR 19	131400Z APR 19	N/A	130830Z, VTS SMR rcvd several reports from vessels arriving and trying to depart Duluth-Superior. On the NE gale, rotten lake ice obstructed the Duluth and Superior Entrances. I/C directed CGC ALDER to recall their crew and prepare to sail. 1400Z, following a shift in the wind, pressure on the ice eased and access to both entrances was restored. CGC ALDER stood down but assumed a B2 readiness posture until nightfall. Five arriving and one departing vessel affected by the waterway restriction. MISLE WWM Act 6661627 documents the event.
1168517	160323Z APR 19	160705Z APR 19	N/A	160323Z APR 19, SEC SSM requested the assistance of CGC MACKINAW in the search for an overdue ice fisherman. The subject was believed to have fallen through the ice near Pendills Bay. MISLE Case 1168517 documents the event.

MISLE waterway management activities documenting “ice and wx analysis”, “industry outreach”, and “tfc management tasks” performed by the sector staff are not listed in this summary but are available upon request.

I offer the following recommendations for process improvement:

1. Logistics Functions Needing Your Support:

a. Lost Cutters Hours: Op Taconite underwent 329 hours of lost cutter support due to mechanical failures. This number balloons to 4,317 when one factors in the failure to restore CGC BISCAYNE BAY and CGC MORRO BAY to full mission capability in time to support the domestic icebreaking mission. Had CGC KATMAI BAY not operated on a “safe to sail” waiver for the damaged shaft seal, the lost cutter support figure exceeds 6200 hours for the 2019 season. The collective losses adversely affected domestic ice breaking operations and this spring was directly responsible for diminished “Tier 1” and “Tier 2” waterway availability, as recorded in paragraph 1.h. of enclosure 2.

i. Post SLEP availability: The mechanical failures suffered by CGC KATMAI BAY continue to highlight the problems SLEP WTGBs encounter post availability. Nearing the completion of the WTGB Service Life Extension Project, the window to rectify these circumstances is rapidly closing. A post project evaluation of these failures could prevent similar occurrences from adversely affecting future revitalization efforts (i.e. WLB SLEP).

ii. Cutter logistics: A percentage of the lost cutter hours is attributable to purchasing and shipping irregularities. I recommend we revisit the associated business rules to minimize impactful delay of parts and supplies destined for operational cutters, especially those not mission capable.

b. Unmanned Aerial Systems (UAS) to the Straits: The UAS is proving to be an exceptional and yet cost effective surveillance tool, one that is extremely beneficial to the domestic icebreaking mission. Until every cutter can be equipped with a UAS, recommend you consider reassigning a UAS to a unit operating in/near the Straits of Mackinac (i.e. CGC MACKINAW, CGC BISCAYNE BAY, or STA St Ignace). Having a UAS in Duluth is a benefit but with limited resources, the Straits area has a greater need for that system.

c. Messaging the DOMICE mission: We should not wait until the end of season summaries to inform senior leadership about the impactful actions supported by the icebreaking mission. Statistical data, reports of urgent vessel assistance, exigent community service, and the economic impact of waterway closures are just a few examples of information readily available but often not reported in near real time to senior leadership. Recommend we gather with command center leaders to evaluate the types of data we seek to share then revisit our daily reporting processes to make sure tactical leaders are providing worthwhile data sets.

d. DOMICE and the shutdown: A great deal of confusion surrounded the lapse in government funding and the execution of domestic icebreaking. Commandant instruction clearly defines what activities the icebreaking mission can and cannot support during a lapse in government appropriation. Recommend consideration of the Finance Resource Management Manual with the goal of creating a quick response guide for future reference.

e. Timing of the St. Lawrence Seaway opening: We saw a conflict develop this spring between the icebreaking needs of the Great Lakes and those of the St. Lawrence Seaway. Although this is not a new phenomenon, members of the commercial shipping industry publically scrutinized the placement of scarce icebreaking assets, which unnecessarily fueled tensions magnified by the planned absence of CGC MOBILE BAY and the unscheduled loss of CCGS SAMUEL RILEY, CGC BISCAYNE BAY, and CGC MORRO BAY. Recommend we engage our Canadian CG partners and approach St Lawrence Seaway officials with a goal of coordinating the opening of seaway infrastructure. We should strive to avoid overburdening either system before the respective waterways and the assets charged to service them are prepared to receive additional commercial vessels.

f. Great Lakes ice conference format: I recommend modifying the plan for the Great Lakes ice conference to include a problem-solving forum. Each year, we gather many of the Great Lakes shipping industry's subject matter experts at the conference, whose knowledge and experience we ought to leverage to improve Great Lakes icebreaking operations. In addition to sharing weather forecasts and statistic reports, I recommend we choose a problem in the spring, study it over the summer, with a goal of facilitating a resolution at the conference. Subjects such as the commercial assistance policy, its availability and lack of a capability clause, even the timing of the Seaway opening are excellent topics for determination.

2. Temporarily assigning CGC ALDER to the Straits of Mackinac for the winter navigation season was an absolute success. Despite concerns raised by shipping industry officials, ALDERs presence in the Straits rendered no adverse impact to the opening of western Lake Superior ports yet minimized the asset gaps created by the planned absence of CGC MORRO BAY (SLEP) and the unplanned losses of CGCs BISCAYNE BAY and MORRO BAY to engine failures. Although it will not be necessary to repeat the temporary assignment every year, knowing we can successfully do so is a critical fill to our "contingency toolbox".

3. I offer the support of my staff to provide further detail, answer questions, or to assist with these process improvement recommendations.

U.S. Department of  
Homeland Security

United States  
Coast Guard



Commander  
U.S. Coast Guard Sector Detroit

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16155  
21 May 2019

## MEMORANDUM

From:  J. W. Novak, CAPT  
CG SECTOR Detroit

To: CGD NINE (dpw)

Subj: 2018 – 2019 OPERATION COAL SHOVEL ANNUAL REPORT

Ref: (a) Domestic Icebreaking Policy and Reporting Requirements, COMDTINST 16151.1D  
(b) Ninth District Icebreaking Policy and Procedures, D9INST M16150.3  
(c) Operation Coal Shovel Standard Operating Procedures, SECDETINST 16150

1. This report outlines significant events during Operation Coal Shovel for the 2018 – 2019 ice season and is submitted in accordance with reference (b). A detailed summary of Operation Coal Shovel is contained in Enclosure (1).
2. Operation Coal Shovel commenced on January 18, 2019, and concluded on March 24, 2019. U.S. Coast Guard cutters conducted a total of 690 hours of icebreaking in support of Operation Coal Shovel.
3. The Sector Detroit point of contact for this report is LT Austin Moran at (313) 568-9508.

#

Enclosures: (1) Operation Coal Shovel Statistical Data Summary  
(2) Operation Coal Shovel Weekly Summaries  
(3) USCGC HOLLYHOCK End of Season Ice Report  
(4) USCGC NEAH BAY End of Season Ice Report

Copy: Sector Sault Ste Marie  
Sector Buffalo  
CGC BRISTOL BAY  
CGC MORRO BAY  
CGC HOLLYHOCK  
CGC NEAH BAY

# **2018-2019 Operation Coal Shovel Statistical Data Summary**

## **I. Winter Assessment**

Operation Coal Shovel began on January 18, 2019, and concluded on March 24, 2019, after 66 consecutive days. Efforts within the Operation Coal Shovel area of operations continued for an additional 43 days after March 24, 2019, to monitor Canadian ice breaking efforts in Eastern Lake Erie, but did not have an U.S. asset assigned. In the middle of January, sustained cold temperatures settled upon the region causing rapid ice growth in the St. Clair River and Western Lake Erie, prompting the initiation of Operation Coal Shovel. The cold temperatures and northerly winds caused high water levels resulting in flooding in the St. Clair River. Freezing temperatures persisted throughout the months of January, February and partially into March. Fluctuating temperatures until mid-February made it difficult to maintain tracks in the St. Clair River. While the St. Clair River and Western Lake Erie remained relatively ice free throughout March, floating plate ice continued to hinder commercial traffic requiring escorts. Ice continued to melt throughout March and commercial vessels were able to transit unhindered by ice in early April.

## **II. Icebreaking Data**

### **Season Totals:**

1. Total number of days for Operation Coal Shovel:
  - a. **66 days** - From January 18, 2019, to March 24, 2019
2. USCG Cutters and Canadian CG ships that participated in Operation Coal Shovel:
  - a. **USCG Cutters:** HOLLYHOCK, BRISTOL BAY, MORRO BAY, NEAH BAY
  - b. **Canadian Ships:** SAMUEL RISLEY, GRIFFON
3. Search and Rescue Response Requests: **01**
4. Urgent Vessel Response Requests: **01**
5. Exigent Community Service Requests: **04**
6. Vessel Direct Assists: **113**
  - a. **08** U.S. flag vessels
  - b. **89** Canadian flag vessels
  - c. **16** FF (Salties) vessels
7. Waterways Restrictions: **1**

- a. In accordance with 33 CFR 162.134(d), Captain of the Port Detroit imposed an one-way traffic pattern on the St. Clair River during the end of January, all of February and parts of March due to significant ice buildup causing ice jams and high water levels. This restriction required alternating one-way traffic and frequently required icebreaker escorts between Marine City and Light X32.

**8. Waterway Closures: 4**

- a. Waterway Closures became necessary several times due to high winds that made it unsafe for vessels to transit in ice infested waters.

**9. Aircraft Flyover hours ISO of Coal Shovel: 60 hours - 30 flights**

- a. Air Station Detroit provided 21 ice reconnaissance flights for Operation Coal Shovel during the 2017-2018 winter season. Aircrews performed two sorties per week during the heaviest ice weeks, frequently hosting a Sector Detroit Ice Observer.
- b. Coast Guard Auxiliary personal conducted nine ice reconnaissance flight for Operation Coal Shovel during the 2017-2018 winter season.

**10. Total Tier 1 Waterways Availability: 94%**

**Availability per Tier 1 Waterway:**

	<b>Hours</b>	<b>Hours Closed</b>	<b>Percentage Per Waterway</b>
a. St. Clair River	1584	96	94
b. Detroit River	1584	96	94
c. Pelee Passage	1584	96	94
g. St. Lawrence Seaway	Not included		

**11. Beset vessels: 04**

**12. Vessel Queue System:** Vessel queue system was briefly utilized twice this season with no issues/complaints from industry.

**13. Hours of icebreaking total by USCG Cutters: 690 (Day 537, Night 153)**

**Icebreaking Hours per USCG Cutter:**

<b>Cutter</b>	<b>Total Hours</b>
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- a. USCGC HOLLYHOCK: 170 hours
- b. USCGC BRISTOL BAY: 310 hours
- c. USCGC MORRO BAY: 137 hours
- d. USCGC NEAH BAY: 73 hours

**Icebreaking Hours per Area:**

<b>AREA 1 EASTERN LAKE ERIE</b>					
<b>CUTTER</b>	<b>DA</b>	<b>VA</b>	<b>PI</b>	<b>MC</b>	<b>TOTAL</b>
BRISTOL BAY	02	00	02	77	81
MORRO BAY	03	00	00	00	03

<b>AREA 2A WESTERN LAKE ERIE</b>					
<b>CUTTER</b>	<b>DA</b>	<b>VA</b>	<b>PI</b>	<b>MC</b>	<b>TOTAL</b>
MORRO BAY	08	00	00	00	08
NEAH BAY	00	00	10	14	24
BRISTOL BAY	04	12	00	39	55

<b>AREA 2B MAUMEE BAY</b>					
<b>CUTTER</b>	<b>DA</b>	<b>VA</b>	<b>PI</b>	<b>MC</b>	<b>TOTAL</b>
MORRO BAY	08	00	00	00	08

<b>AREA 3A DETROIT RIVER</b>					
<b>CUTTER</b>	<b>DA</b>	<b>VA</b>	<b>PI</b>	<b>MC</b>	<b>TOTAL</b>
BRISTOL BAY	5.5	05	00	35	45.5
NEAH BAY	00	00	02	05	07
MORRO BAY	12	05	03	04	24

<b>AREA 3B LAKE ST. CLAIR</b>					
<b>CUTTER</b>	<b>DA</b>	<b>VA</b>	<b>PI</b>	<b>MC</b>	<b>TOTAL</b>
BRISTOL BAY	18.5	18	12	11	59.5
NEAH BAY	08	00	02	02	12
MORRO BAY	22	04	02	03	31

<b>AREA 3C ST. CLAIR RIVER</b>					
<b>CUTTER</b>	<b>DA</b>	<b>VA</b>	<b>PI</b>	<b>MC</b>	<b>TOTAL</b>
BRISTOL BAY	26	35	00	08	69
NEAH BAY	02	00	11	04	17
MORRO BAY	39	05	03	16	63
HOLLYHOCK	10	43.5	00	10.5	64

<b>AREA 4A LAKE HURON</b>					
<b>CUTTER</b>	<b>DA</b>	<b>VA</b>	<b>PI</b>	<b>MC</b>	<b>TOTAL</b>
HOLLYHOCK	01	53.5	00	51.5	106
NEAH BAY	00	00	10	03	13

AREA 4B SAGINAW BAY					
CUTTER	DA	VA	PI	MC	TOTAL
N/A	0	0	0	0	0

**DA** = Direct Assistance  
**VA** = Vessel Assistance  
**PI** = Preventive Icebreaking  
**MC** = Miscellaneous

**III. Opportunities for Improvement and Best Practices**

**1. Opportunities for Improvement**

- a. Several decisions made by Operation Coal Shovel Ice Officers during this ice season were questioned by U.S. industry representatives and District Nine dpw when Canadian icebreakers were released to assist Algoma ships in/out of Goderich, Nanticoke or Port Colborne when they could have been used more effectively in the St. Clair River. While TACON for Canadian icebreakers is assumed by Operation Coal Shovel, it is important to note that Operation Coal Shovel Ice Officers work closely with Canadian Ice Officers, and there is pressure from Canadian shipping companies (due to their service agreements) for the Canadian Coast Guard to provide icebreaking services to Canadian-flagged ships, as necessary. There is a carefully orchestrated “give and take” that occurs between U.S. and Canadian Ice Officers to accommodate the needs of both countries, and it is important for all involved in the icebreaking mission on the Great Lakes to understand this unique dynamic. It is also this dynamic that makes honoring scheduled Charlie periods and logistics days challenging because we are not directing an all-U.S. fleet of icebreakers.
- b. Technology continues to cause delays in uploading real-time information to Homeport. The new Homeport 2.0 does not allow CG personnel to log into Homeport from a non-Coast Guard workstation. An iPad has helped Operation Coal Shovel Ice Officers obtain and track real-time updates for weather, ice conditions and ship movements when not at home or at the office. However, the iPad has no ability to upload documents via USB and has no capabilities to utilize VDI to log into a Coast Guard server. TISCOM continues to deny all purchases for non-standard laptops with Windows capabilities, which makes documenting all after-hour and weekend activities extremely challenging unless at the office. While both Ice Officers have VDI capabilities, VDI/severs were not available on numerous occasions. Sector Detroit WWM division continues to seek alternatives to increase the technological abilities of Operation Coal Shovel.
- c. Operation Coal Shovel seeks to further leverage resources available through Sector Detroit’s Command Center during the upcoming ice season. Operation Coal Shovel Ice

Officers will continue to work with Sector Detroit's Command Center Chief to institute new initiatives and make improvements where necessary.

- d. The government shutdown prevented NOAA weather products from being properly updated. As a result, tracking and monitoring ice conditions was extremely challenging.
- e. Data collection outcomes/endpoints for icebreaking need to be clearly established/defined and then standard reporting formats (daily, weekly and annual reports) established for Cutters and Operations Taconite and Coal Shovel. Once a standard data collection system is in place, standard policy and training must be provided to Ice Officers and Cutter personnel at the annual Ice Conference or via online webinar(s) or teleconference(s) prior to the 2019-2020 ice season to reinforce understanding, expectations and standardization. Such a data collection system will provide an accurate tool to satisfy Headquarters/LANTAREA/Ninth District data calls during the ice season, reinforce resource requests, and provide support for awards and evaluations.
- f. It is highly recommended that Ninth District dpw staff visit Sector Detroit for two days. Spending one-day riding an icebreaker in the St. Clair River and one-day at Sector Detroit with the Ice Officer would provide a better understanding of the unique challenges faced by Operation Coal Shovel.
- g. CCGS GRIFFON cannot operate in brash ice, specifically in the St. Clair River. This limits the GRIFFON's ability to operate in Lake Erie, which creates logistical issues for tasking. Making matters worse is industry is unaware of this limitation. As a result, numerous questions from industry are received when there is significant ice in the St. Clair River and GRIFFON is sitting at the dock in Amherstburg, ON. Recommend District Nine dpw request different Canadian asset next year that can operate in brash ice.

## **2. Best Practices**

- a. Having two U.S. cutters in Operation Coal Shovel proved to be a very effective way to manage assets and execute the icebreaking mission.
- b. Constant high water levels in the St. Clair River continued again this year, especially in January and February when ice jams were frequently forming between the coastal towns of East China and Algonac, Michigan. Operation Coal Shovel continued engagement with the hydraulic engineers from the U.S. Army Corps of Engineers (USACE) to provide information relative to the effectiveness of breaking North Channel on the St. Clair River for flushing/removing ice jams upriver. Weekly communication with the hydrologist from the USACE proved vital in minimizing flooding in the St. Clair River.

To address high water levels, which are forecasted to remain in the upcoming 2019-2020 ice season, it is highly recommended that local subject matter experts from the USACE again present current and historical water level datum and observations to the general assembly at this year's Ice Conference to ensure all present, including industry, have a

fundamental understanding of water level trends on the Great Lakes System and how they impact the overall icebreaking mission. Even more critical is the USACE also provide a presentation to U.S. and Canadian icebreaker COs on issues/concerns related to breaking North Channel to eliminate the misconception that breaking the North Channel is the easier, more effective method for managing ice buildup in lower St. Clair River. This presentation should become a yearly occurrence at the Ice Conference. The use of two U.S. cutters in Operation Coal Shovel enabled greater coverage keeping flooding at a minimum this year.

- c. Keeping USCGC BRISTOL BAY in Operation Coal Shovel's AOR was effective in allowing the cutter to develop a good working relationship with the Ice Officers and familiarity with the AOR and ships that frequently transit the St. Clair River. Having USCGC BRISTOL BAY being homeported in Detroit also made logistics more efficient similar to USCGC KATMAI BAY in the St. Mary's River.
- d. Android Team Awareness Kit (ATAK) was a very effective way of communicating conditions and pictures between cutters and Ice Officers. It also enabled the Ice Officers to share pictures with industry much more efficiently. Prior to the start of the 2018-2019 ice season, Sector Detroit Ice Officers and Enforcement division provided training to cutters and ice observers on how to use ATAK phones. When a user posts a picture with an ATAK phone, all users are notified and are able to view the picture. This enables U.S. cutters to instantly provide real time ice conditions to other U.S. Cutters as well as Sector Detroit Ice Officers. Users can also draw and post different graphics on a real time map on the phone which proved to be very useful in sharing where the ice edge was with all U.S. cutters. Of note, ATAK phones are only available to U.S. cutters.
- e. The flexibility and support provided by USCGC MORRO BAY at the beginning of the season was commendable. The crew went above and beyond to keep commerce moving when Operation Coal Shovel only had one U.S. cutter.
- f. Operation Coal Shovel Team hosted Canadian Ice Officers at Sector Detroit so they could achieve greater familiarization with our workspaces and ice management practices.
- g. Operation Coal Shovel Ice Officers performed several ride-alongs with U.S. icebreakers to improve working relationships and better understand the issues/obstacles faced by Cutter personnel.
- h. USCGC MORRO BAY, USCGC BRISTOL BAY and USCGC HOLLYHOCK were incredibly accommodating and professional during ride-alongs. The flexibility they operated with in regards to short notice VIP and press visits was commendable. The willingness to host ride-alongs is greatly appreciated by Operation Coal Shovel.
- i. Port Lambton and Marine City cameras were heavily utilized to monitor ice conditions in the St. Clair River, especially during the government shutdown when all NOAA ice products were offline.

- j. A formalized roster and ice observer rotation was implemented utilizing ANT Detroit, Sector Detroit Command Center and Coast Guard Auxiliary personnel. Preseason training was conducted for Ice Observers and Air Station personnel.
- k. Use of the Prevention Department's iPad enabled consolidation of all references and provided portable access to weather and ice forecast websites, as well as Marine Traffic AIS tracking during evening and weekend hours.

**COAL SHOVEL WEEKLY SUMMARY  
WEEKLY SUMMARY  
18 JAN 2019 thru 20 JAN 2019**

Ref: CCGD9INST M16150.2(series)

1. Situation: On January 18, 2019, The Commander of CG Sector Detroit commenced Operation Coal Shovel. No assets were assigned to Sector Detroit Tacon. The two areas of concern were a rapid freeze of ice in the St. Clair River and Western Basin over the weekend with the upcoming Artic Blast. St. Clair River is ice free, Lake St. Clair had 9 tenths new lake ice and Western Lake Erie had 3 tenths new lake ice. No significant ice was reported elsewhere in the Coal Shovel's AOR. Currently all Tier I and II have no significant Ice concerns. District Nine will assign CGC BRISTOL BAY to Sector Detroit Tacon when needed.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
00	Exigent Community Service Requests
20	Icebreaking Assistance Requests
00	U.S. Vessels Directly Assisted
00	CA Vessels Directly Assisted
00	FF (Salties) Directly Assisted
13	Total Transits Assisted
01	Ice Recon Flights
00	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
00	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	72	00	100%
Detroit River	72	00	100%
Pelee Passage	72	00	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
00	Exigent Community Service Requests
00	Icebreaking Assistance Requests
00	U.S. Vessels Directly Assisted
00	CA Vessels Directly Assisted
00	FF (Salties) Directly Assisted
00	Total Transits Assisted
00	Ice Recon Flights
00	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
00	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	72	00	100%
Detroit River	72	00	100%
Pelee Passage	72	00	100%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0	N/A
CGC BRISTOL BAY	0 Hours	0	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0	N/A
CGC BRISTOL BAY	0 Hours	0	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

9. Future Plans: Continue monitoring ice formation.

**COAL SHOVEL WEEKLY SUMMARY**  
**WEEKLY SUMMARY**  
**21 JAN 2019 thru 27 JAN 2019**

Ref: CCGD9INST M16150.2 (series)

1. Situation: Extreme cold temperatures caused a rapid overnight freeze over the areas of the St. Clair River and Lake St. Clair causing vessels to be hindered by ice. Rapid freezing and rising water levels made it exceptionally challenging escorting the remaining few US vessels to lay up. The St. Clair river conditions from Algonac to East China had 10/10 brash under pressure. Western Basin in Lake Erie is becoming a concern although vessels are currently not hindered by ice. CGC BRISTOL BAY and CGC MORRO BAY was assigned to the Coal Shovel TACON. CCGS SAMUEL RISLEY and CCGS GIRFFON was assigned to the Coal Shovel area. CCGS Griffon was FMC for the first portion of the week until their crew change on January 23<sup>rd</sup>. After their crew change, they required some maintenance through the weekend. CGC NEAH BAY was assigned to OP Coal Shovel to cover Lake Erie over the weekend while GRIFFON was conducting maintenance.
2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
02	Exigent Community Service Requests
23	Icebreaking Assistance Requests
04	U.S. Vessels Directly Assisted
12	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
27	Total Transits Assisted
00	Ice Recon Flights
168	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
126	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	168	168	100%
Detroit River	168	00	100%
Pelee Passage	168	00	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
02	Exigent Community Service Requests
43	Icebreaking Assistance Requests
04	U.S. Vessels Directly Assisted
12	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
40	Total Transits Assisted
01	Ice Recon Flights
168	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
126	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	240	168	100%
Detroit River	240	00	100%
Pelee Passage	240	00	100%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	24 Hours	0	Fuel Line Failure
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	24 Hours	0	Fuel Line Failure
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

9. Future Plans: Continue monitoring ice formation with onset of second arctic blast.

**COAL SHOVEL WEEKLY SUMMARY**  
**WEEKLY SUMMARY**  
**28 JAN 2019 thru 03 FEB 2019**

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC MORRO BAY, CCGS SAMUEL RISLEY AND CCGS GRIFFON were assigned to Coal Shovel. An arctic blast settled over the region mid-week which caused rapid freezing across the AOR, especially in the St. Clair River. The below average temps allowed the tracks to hold in the St. Clair River reducing flood concerns. CGC MORRO BAY experienced a fuel line casualty Sunday which rendered them NMC until Tuesday afternoon. Wednesday, the wind and ice conditions were not conducive to conducting vessel movements. CGC MORRO BAY hosted Good Morning America, Wednesday and resumed escorts on Thursday. With the upcoming warm temperatures, flooding will be a major concern for us next week.
2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
00	Exigent Community Service Requests
16	Icebreaking Assistance Requests
01	U.S. Vessels Directly Assisted
06	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
09	Total Transits Assisted
02	Ice Recon Flights
168	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
19	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	168	168	100%
Detroit River	168	00	100%
Pelee Passage	168	168	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
02	Exigent Community Service Requests
59	Icebreaking Assistance Requests
05	U.S. Vessels Directly Assisted
18	CA Vessels Directly Assisted
04	FF (Salties) Directly Assisted
49	Total Transits Assisted
03	Ice Recon Flights
336	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
145	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	408	336	100%
Detroit River	408	00	100%
Pelee Passage	408	168	100%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	48 Hours	24 Hours	Fuel Line Failure
CGC BRISTOL BAY	0 Hours	0	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	24 Hours	N/A
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

9. Future Plans: Continue monitoring ice degradation and flooding with the warmer temperatures.

## COAL SHOVEL WEEKLY SUMMARY

**04 FEB 2019 thru 10 FEB 2019**

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC HOLLYHOCK, CGC MORRO BAY, CCGS SAMUEL RISLEY AND CCGS GRIFFON were assigned to Coal Shovel. CGC HOLLYHOCK spent the week assisting vessels in and out of Goderich, ON. Later in the week, after assisting a vessel in, it was determined that with high winds and freezing spray predicted, CGC HOLLYHOCK would stay on a dock in Goderich until the weather was favorable to escort the vessel out of Goderich. CGC HOLLYHOCK took the opportunity in the port of Goderich for some local outreach providing over 350 tours to the local community. Preparing the tracks for the vessel out of Goderich proved to be beyond the capabilities of a 225 due to the packed in and under pressure ice from the high winds. With the help of CCGS SAMUEL RISLEY, CGC HOLLYHOCK was able to assist the outbound vessel from Goodrich. MORRO BAY tirelessly provided assistance to vessels transiting through the St. Clair System throughout the week. At the end of the week, CGC MORRO BAY escorted two vessels from Detroit to South East Shoal in Lake Erie before returning to homeport and assuming Charlie status. CCGS SAMUEL L RISLEY assisted with escorts in the St. Clair System early in the week and conducted a day of logistics midweek before transiting to Goderich. CCGS Griffon diverted to a request of exigent circumstances for flood relief in Port Maitland, ON in Lake Erie. While enroute, she suffered a casualty (engine room fire). After the fire was extinguished and full system checks were complete, she was found to be fully mission capable and continued with her mission.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
01	Exigent Community Service Requests
25	Icebreaking Assistance Requests
01	U.S. Vessels Directly Assisted
21	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
24	Total Transits Assisted
02	Ice Recon Flights
168	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
126	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	168	168	100%
Detroit River	168	00	100%
Pelee Passage	168	168	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
03	Exigent Community Service Requests
84	Icebreaking Assistance Requests
06	U.S. Vessels Directly Assisted
39	CA Vessels Directly Assisted

06	FF (Salties) Directly Assisted
73	Total Transits Assisted
05	Ice Recon Flights
504	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
271	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	576	504	100%
Detroit River	576	00	100%
Pelee Passage	576	336	100%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	48 Hours	N/A
CGC BRISTOL BAY	0 Hours	0	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	72 Hours	N/A
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

9. Future Plans: Continue monitoring ice formation.

## COAL SHOVEL WEEKLY SUMMARY

11 FEB 2019 thru 17 FEB 2019

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC HOLLYHOCK, CGC NEAH BAY, CGC BRISTOL BAY, CCGS SAMUEL RISLEY AND CCGS GRIFFON were assigned to Coal Shovel. On Monday, CGC BRISTOL BAY suffered a casualty with water in the lube oil system rendering them Not Mission Capable (NMC) until 15 February. No escorts were conducted from Monday to Wednesday due to high wind and shifting ice conditions. On 12 February CGC NEAH BAY conducted a personnel transfer of 04 CGC HOLLYHOCK members off the M/V ALGOMA SAULT while at anchor in the St. Clair River. Thursday, 14 February, both wind and ice conditions improved immensely allowing commercial traffic movements with very little hindrance. On 14 February, the CGC NEAH BAY was chopped to Operation Taconite. CGC NEAH BAY conducted logistics in Detroit and Algonac on Friday and transited to Taconite's AOR on Saturday. Sunday, 17 February, CGC HOLLYHOCK conducted an escort of M/V ALGOMA HANSA down bound from Sarnia. Based on the ice conditions and the conditions from Saturday, it was decided that the M/V HANSA could cross the lake without an I/B escort. CGC HOLLYHOCK concluded the escort and worked an AtoN discrepancy; Lake St. Clair Lighted Buoy 30. M/V ALGOMA HANSA became beset and asked CCGS GRIFFON for assistance. CGC HOLLYHOCK was the first on scene, and freed them from the ice.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
01	Urgent Vessel Response Requests
00	Exigent Community Service Requests
16	Icebreaking Assistance Requests
00	U.S. Vessels Directly Assisted
14	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
15	Total Transits Assisted
02	Ice Recon Flights
168	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
77	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	168	168	100%
Detroit River	168	00	100%
Pelee Passage	168	168	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
01	Urgent Vessel Response Requests
03	Exigent Community Service Requests
100	Icebreaking Assistance Requests
06	U.S. Vessels Directly Assisted
53	CA Vessels Directly Assisted
08	FF (Salties) Directly Assisted
88	Total Transits Assisted

07	Ice Recon Flights
672	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
348	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	744	672	100%
Detroit River	744	00	100%
Pelee Passage	744	504	100%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0	N/A
CGC BRISTOL BAY	84 Hours	0	Water in lube oil
CGC HOLLYHOCK	0 Hours	48 Hours	N/A
CGC NEAH BAY	0 Hours	24 Hours	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	72 Hours	N/A
CGC BRISTOL BAY	84 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	48 Hours	N/A
CGC NEAH BAY	0 Hours	24 Hours	N/A

9. Future Plans: Continue monitoring ice formation.

**COAL SHOVEL WEEKLY SUMMARY**  
**18 FEB 2019 thru 24 FEB 2019**

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC HOLLYHOCK, CGC BRISTOL BAY, CCGS SAMUEL RISLEY AND CCGS GRIFFON were assigned to Coal Shovel. Early in the week, harsh conditions in the St. Clair River caused delays and raised water levels resulting in St. Clair County issuing a flood warning. ALGOSCOTIA and LEO A MCARTHUR hoveed to in the ice until flushing operations could be complete. While working in the river, CGC BRISTOL BAY suffered a steering casualty. Cutter DC's worked tirelessly to weld the ram and return the cutter to FMC in less than 24 hours. After completion of flushing operations, CGC HOLLYHOCK, CGC BRISTOL BAY, and CCGS SAMUEL RISLEY were able to resume escorts and clear all traffic. Tracks in the St. Clair River held the rest of the week. Tracks in Lake St. Clair did not hold due to shifting plate. Later in the week, CGC HOLLYHOCK transited to Goderich to ensure the M/V ALGOMA SAULT safely entered and departed Goderich. A high wind warning for Sunday and Monday caused all vessel traffic to remain in port with no movements Sunday.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
01	Exigent Community Service Requests
15	Icebreaking Assistance Requests
00	U.S. Vessels Directly Assisted
12	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
14	Total Transits Assisted
02	Ice Recon Flights
168	Waterways Restrictions (hrs)
24	Waterways Closures (hrs )
53	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	144/168	168	86%
Detroit River	144/168	24	86%
Pelee Passage	144/168	168	86%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
01	Urgent Vessel Response Requests
04	Exigent Community Service Requests
115	Icebreaking Assistance Requests
06	U.S. Vessels Directly Assisted
65	CA Vessels Directly Assisted
10	FF (Salties) Directly Assisted
102	Total Transits Assisted
09	Ice Recon Flights
840	Waterways Restrictions (hrs)
24	Waterways Closures (hrs )

401	Icebreaking Resource Hours
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5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	840/912	840	92%
Detroit River	840/912	72	92%
Pelee Passage	840/912	648	92%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0 Hours	N/A
CGC BRISTOL BAY	22 Hours	24 Hours	Steering Ram weld
CGC HOLLYHOCK	0 Hours	48 Hours	N/A
CGC NEAH BAY	0 Hours	0 Hours	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	72 Hours	N/A
CGC BRISTOL BAY	106 Hours	48 Hours	N/A
CGC HOLLYHOCK	0 Hours	96 Hours	N/A
CGC NEAH BAY	0 Hours	24 Hours	N/A

9. Future Plans: Continue monitoring ice formation.

**COAL SHOVEL WEEKLY SUMMARY  
25 FEB 2019 thru 3 MAR 2019**

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC HOLLYHOCK, CGC BRISTOL BAY, CCGS SAMUEL RISLEY AND CCGS GRIFFON were assigned to Coal Shovel. Wind and ice conditions on Lake St. Clair were not conducive for movements on Monday. Normal traffic movements resumed on Tuesday with the escorts of M/V ALGOSEA, M/V ALGOMA SAULT and M/V ALGONOVA from Sarnia to Detroit. The M/Vs ALGOSEA and ALGONOVA proceeded to Nanticoke with CCGS GRIFFON. CCGS SAMUEL RISLEY assisted the tug LEO A. MACARTHUR w/barge JOHN J. CARRICK from Detroit to Sarnia. On Wednesday, CGC BRISTOL BAY conducted an escort of M/V IVER BRIGHT from Sarnia to Detroit with the DCO on board to observe and CGC HOLLYHOCK escorted M/V ALGOMA SAULT from Detroit to Sarnia for layup. Thursday morning, CGC BRISTOL BAY escorted M/V IVER BRIGHT to Monroe, MI and the M/V ALGOMA HANSA was escorted from Nanticoke to Sarnia with the assistance of the CCGS GRIFFON and SAMUEL RISLEY. Friday morning, the M/V IVER BRIGHT was able to transit from Monroe to Detroit unassisted and proceeded to Sarnia with the assistance of CCGS SAMUEL RISLEY. The other vessel movement for Friday was the tug LEO A. MACARTHUR w/barge JOHN J. CARRICK. CGC HOLLYHOCK stood by at LHC buoys 11 and 12 to assist if necessary. Tug LEO A. MACARTHUR transited from Port Huron to the Taconite AOR, without any assistance. On Saturday CCGS GRIFFON and CCGS SAMUEL RISLEY escorted the M/V ALGONOVA from Nanticoke to Sarnia, ON. Three movements were scheduled for Sunday morning, two cancelled their movements and the M/V ALGOMA INNOVATOR made it to Sarnia without any assistance. Excellent Ice Recon support from AUX Air and AIRSTA Detroit this week made operational planning and overall ice conditions awareness very manageable.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
00	Exigent Community Service Requests
17	Icebreaking Assistance Requests
00	U.S. Vessels Directly Assisted
12	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
14	Total Transits Assisted
04	Ice Recon Flights
168	Waterways Restrictions (hrs)
24	Waterways Closures (hrs )
50	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	144/168	168	86%
Detroit River	144/168	24	86%
Pelee Passage	144/168	168	86%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
01	Urgent Vessel Response Requests

04	Exigent Community Service Requests
132	Icebreaking Assistance Requests
06	U.S. Vessels Directly Assisted
77	CA Vessels Directly Assisted
12	FF (Salties) Directly Assisted
116	Total Transits Assisted
13	Ice Recon Flights
1008	Waterways Restrictions (hrs)
96	Waterways Closures (hrs )
451	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	984/1080	1008	91%
Detroit River	984/1080	96	91%
Pelee Passage	984/1080	816	91%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0 Hours	N/A
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	24 Hours	N/A
CGC NEAH BAY	0 Hours	0 Hours	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	72 Hours	N/A
CGC BRISTOL BAY	106 Hours	72 Hours	N/A
CGC HOLLYHOCK	0 Hours	120 Hours	N/A
CGC NEAH BAY	0 Hours	24 Hours	N/A

9. Future Plans: Continue monitoring ice formation.

## COAL SHOVEL WEEKLY SUMMARY

4 MAR 2019 thru 10 MAR 2019

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC HOLLYHOCK, CGC BRISTOL BAY, CCGS SAMUEL RISLEY AND CCGS GRIFFON were assigned to Coal Shovel. CGC HOLLYHOCK was released from Coal Shovel TACON on Thursday. Early in the week, cold nights resulted in new ice growth, which kept the tracks in the St. Clair River from collapsing. Warmer temperatures during the day caused tracks in Lake St. Clair to become unstable and shifting plates required vessels to be assisted through the Lake. Normal ALGOMA movements though the week, combined with the cold temperatures, resulted in two vessels becoming beset in the Long Point area. Gale force winds at the end of the weekend with South winds prevented movements in or out of Nanticoke due to pressure on the ice. The same south winds, however, made the movement of the Dorothy Pathfinder escorted by the CCGS GRIFFON favorable.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
01	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
00	Exigent Community Service Requests
14	Icebreaking Assistance Requests
02	U.S. Vessels Directly Assisted
07	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
14	Total Transits Assisted
05	Ice Recon Flights
168	Waterways Restrictions (hrs)
0	Waterways Closures (hrs )
38	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	168/168	168	100%
Detroit River	168/168	0	100%
Pelee Passage	168/168	168	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
01	Search and Rescue Response Requests
01	Urgent Vessel Response Requests
04	Exigent Community Service Requests
146	Icebreaking Assistance Requests
08	U.S. Vessels Directly Assisted
84	CA Vessels Directly Assisted
14	FF (Salties) Directly Assisted
130	Total Transits Assisted
18	Ice Recon Flights
1176	Waterways Restrictions (hrs)
96	Waterways Closures (hrs )
489	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	1152/1248	1176	92%
Detroit River	1152/1248	96	92%
Pelee Passage	1152/1248	984	92%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0 Hours	N/A
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	24 Hours	N/A
CGC NEAH BAY	0 Hours	0 Hours	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	72 Hours	N/A
CGC BRISTOL BAY	106 Hours	96 Hours	N/A
CGC HOLLYHOCK	0 Hours	144 Hours	N/A
CGC NEAH BAY	0 Hours	24 Hours	N/A

9. Future Plans: Continue monitoring ice degradation with warming temps. Shifting plate ice in Lake Erie and Lake St. Clair continue to be a problem. Potential ice jams in the St. Clair River from melting ice in Lake Huron are also a concern.

## COAL SHOVEL WEEKLY SUMMARY

11 MAR 2019 thru 17 MAR 2019

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC BRISTOL BAY, CCGS SAMUEL RISLEY AND CCGS GRIFFON were assigned to Coal Shovel. CCGS SAMUEL RISLEY was released from Coal Shovel TACON on Saturday. Warmer temperatures late in the week helped decay the ice rendering the St. Clair River, Detroit River and the Western Basin ice-free. Ice is still present but no longer hindering traffic in Lake St. Clair, Lake Huron, Southeast Shoal and Pelee Passage in Lake Erie. Normal ALGOMA movements were made along with the M/V IVER BRIGHT and tug EVERLAST. All vessel movements through the Detroit River, Lake St. Clair and the St. Clair River were made without icebreaker assistance on Friday and through the weekend. Erie Islands RNA was lifted but the Saginaw Bay RNA is still in effect.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
00	Exigent Community Service Requests
11	Icebreaking Assistance Requests
00	U.S. Vessels Directly Assisted
05	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
07	Total Transits Assisted
04	Ice Recon Flights
96	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
80	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	168/168	96	100%
Detroit River	168/168	0	100%
Pelee Passage	168/168	96	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
01	Search and Rescue Response Requests
01	Urgent Vessel Response Requests
04	Exigent Community Service Requests
157	Icebreaking Assistance Requests
08	U.S. Vessels Directly Assisted
89	CA Vessels Directly Assisted
16	FF (Salties) Directly Assisted
137	Total Transits Assisted
22	Ice Recon Flights
1272	Waterways Restrictions (hrs)
96	Waterways Closures (hrs )
569	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	1320/1416	1272	93%
Detroit River	1320/1416	96	93%
Pelee Passage	1320/1416	1080	93%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0 Hours	N/A
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	00 Hours	N/A
CGC NEAH BAY	0 Hours	0 Hours	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	72 Hours	N/A
CGC BRISTOL BAY	106 Hours	120 Hours	N/A
CGC HOLLYHOCK	0 Hours	144 Hours	N/A
CGC NEAH BAY	0 Hours	24 Hours	N/A

9. Future Plans: Continue monitoring ice degradation with warming temps. Ice in Eastern Lake Erie still remains a concern. Will look to lift the RNA in Saginaw Bay in the coming week.

## COAL SHOVEL WEEKLY SUMMARY

**18 MAR 2019 thru 24 MAR 2019**

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC BRISTOL BAY AND CCGS GRIFFON were assigned to Coal Shovel. The St. Clair River, Detroit River and Western Basin remained ice free. Ice is still present but no longer hindering traffic in Lake St. Clair, Lake Huron, Southeast Shoal and Pelee Passage in Lake Erie. Vessel movement has begun to increase. All vessel movements through the Detroit River, Lake St. Clair, the St. Clair River and Western Lake Erie were made without icebreaker assistance. Saginaw Bay RNA will be lifted Monday. Heavy ice still remains a problem in Eastern Lake Erie rendering Port Colborne inaccessible. Early in the week CSL requested assistance for a vessel out of Midland and then later deferred (by CSL) to a future date due to the conditions. PIERRE RADISSON suffered a casualty over the weekend delaying their arrival to Eastern Lake Erie. It was decided on Sunday that CGC BRISTOL BAY would transit to Operation Taconite and the Pierre Radisson would remain in Eastern Lake Erie until she was no longer needed there.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
00	Exigent Community Service Requests
36	Icebreaking Assistance Requests
00	U.S. Vessels Directly Assisted
00	CA Vessels Directly Assisted
00	FF (Salties) Directly Assisted
36	Total Transits Assisted
03	Ice Recon Flights
00	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
84	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	168/168	0	100%
Detroit River	168/168	0	100%
Pelee Passage	168/168	0	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
01	Search and Rescue Response Requests
01	Urgent Vessel Response Requests
04	Exigent Community Service Requests
193	Icebreaking Assistance Requests
08	U.S. Vessels Directly Assisted
89	CA Vessels Directly Assisted
16	FF (Salties) Directly Assisted
173	Total Transits Assisted
25	Ice Recon Flights
1272	Waterways Restrictions (hrs)
96	Waterways Closures (hrs )
653	Icebreaking Resource Hours

ENCLOSURE 2

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	1488/1584	1272	94%
Detroit River	1488/1584	96	94%
Pelee Passage	1488/1584	1080	94%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0 Hours	N/A
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	0 Hours	N/A
CGC NEAH BAY	0 Hours	0 Hours	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	72 Hours	N/A
CGC BRISTOL BAY	106 Hours	144 Hours	N/A
CGC HOLLYHOCK	0 Hours	144 Hours	N/A
CGC NEAH BAY	0 Hours	24 Hours	N/A

9. Future Plans: Continue monitoring ice degradation in Eastern Lake Erie with the arrival of Pierre Radisson and work with our Canadian partners if assistance is required in Buffalo, NY or Erie, PA.



16155  
17 May 2019

## MEMORANDUM

MONACELLI.NIC  
HOLAS.M.12749

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MONACELLI.NICHOLAS.M.1  
274982523  
Date: 2019.05.17 10:14:47  
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From: N. M. Monacelli, LCDR 82523  
CGC HOLLYHOCK (WLB 214)

To: CG Sector Detroit

Subj: OPERATION COAL SHOVEL AFTER ACTION REPORT, 2019

### 1. Summary of Operations:

a. HOLLYHOCK shifted TACON to OPERATION COAL SHOVEL on 4 February 2019, operating until shifting TACON to OPERATION TACONITE on 14 March 2019. During this operational period, the cutter was away from homeport for 21 out of 39 days working in Lake Huron, the St. Clair River, and Lake St. Clair.

b. In total, HOLLYHOCK provided 162.5 hours of ice breaking support to OPERATION COAL SHOVEL, supporting 17 vessel transits and providing Direct Assistance to 7 vessels.

### 2. Operations:

a. Lake Huron: HOLLYHOCK conducted ice breaking operations between the entrance of the St. Clair River and Goderich, ON. Ice in and around the bottom of the cut held fast to the shore for the majority of the time HOLLYHOCK operated in the area. Once past the Lake Huron Cut (LHC) Buoys 11 and 12, waters typically opened up until approximately 4 NM from the entrance to Goderich, ON. The ice bridge in the vicinity of LHC 1 and 2 formed and dissipated as the season progressed. Passage through the LHC occasionally required ice breaker escort to prevent the ice bridge from collapsing. The ice on the Goderich approach made for the most challenging operations as weather and lake conditions would shift ice fields on a daily basis, requiring frequent track re-establishment. On one occasion, the wind shifted hard out of the west and packed the ice into the outer break walls. The resultant conditions required further assistance from the Canadian Coast Guard ice breaker SAMUEL RISLEY. The ice became particularly challenging on the last few hundred yards from the entrance to the Port of Goderich, ON. Operations were fairly straight-forward regarding navigation and track establishment. Despite occasional significant windrows, the approach remained straight track from charted LCAs into the harbor, playing into the strengths of WLB capabilities. Working in the vicinity of Goderich also afforded the possibility for assistance from the Harbor Master tug in broadening ice pools or clearing the Harbor.

b. St. Clair River: The majority of ice breaking in the St. Clair River was in the vicinity of Algonac south to the St. Clair Flats. Ice here could be stacked several feet deep covered in a layer of powdered snow. Breaking in such conditions proved extremely slow and challenging. However, once broken, the track typically held well. Once outside of the Algonac region, ice conditions tapered off into continually less thick and challenging plate or brash ice. This could be seen on both the up and down bound transits through Lake St. Clair, and North towards the Recors Coal Dock. The remainder of the river, North towards Port Huron, saw little to no

ENCLOSURE 3

significant ice conditions which could hinder traffic. Ice plates and brash ice flowed easily down river throughout the season.

3. Engineering:

a. N/A

4. Commercial Ice Breaking: Not applicable. Conducted no operations with commercial ice breakers.

5. Effects on Other Missions: Not applicable. No other missions while assigned to OPERATION COAL SHOVEL.

6. Public Affairs: HOLLYHOCK opened her brow to the community of Goderich, ON and saw a very large turnout for public tours. Many of the crew assisted in delivering tours to 362 people as well as a visit from the The Port Huron Time-Herald.

7. Recommendations/ Comments:

a. Working in the COAL SHOVEL AOR is a fantastic introduction for the novice ice breaking operator. Building pre-need relationships in December 2018 proved invaluable by the time ice operations rolled around. As with any operation, it is critical to look back and see how something excellent can grow. To that end, I offer the following recommendations:

(1) Assets should not be permitted to conduct operations until completing an in-person inchoop brief. Although much remains the same, each year's players, priorities, and tactics evolve. The in-person inchoop brief is common place for units in other Districts, with potential to benefit operations here in District 9. The brief presents an opportunity for command cadre to interact, build a shared mental model of operations, and maximize the ability for tactical commanders to align with their assigned assets. With assets operating in or near the tactical commander's physical location, combined with HOLLYHOCK's geographic proximity to Sector Detroit, hurdles to facilitating the inchoop brief are low. On multiple occasions, during the course of operations, HOLLYHOCK had to reach back for clarification on issues that otherwise are normally addressed at routine inchoop briefings.

(2) Doctrine should be doctrine-ized. As a commanding officer, I rely heavily on published doctrine to guide and facilitate operations; it represents the agreement between the operational commander and the tactical commander on how to deploy the asset. Although current doctrine is available, it became readily apparent that some requirements are not enforced, while other, non-published requirements, are. Inconsistencies can be noted at each level of operations, some more impactful than others. My staff and I are standing by to assist in any capacity to review and update current doctrine. Of most immediate impact to the asset, readiness standards must be more clearly defined. Without a defined standard, I cannot ensure that the unit is ready to meet mission requirements.

(3) Please continue publishing anticipated AOR traffic outlooks. Once we had access to that information, anticipating operations and contingency plans to re-direct became significantly easier. Having the same visibility as the waterways managers enabled better, more meaningful communications with other assets and TACON. Specifically, it enabled us to have transit times, ice conditions vs. capabilities assessments, logistics requirements, and other operational planning

factors in place. As such, we could more quickly deploy and respond, a necessity given the operational tempo.

(4) Sector Detroit should have an in person presence at the Regional Operational Center (ROC). With someone in the room when for the ROC decision making process, differences in U.S. – Canadian mission priorities and asset utilization could be minimized. On several occasions, it appeared that ice officers were caught in a no-win scenario between what an asset could accomplish and the mission requirements of the ROC, resulting in the re-deployment of a Canadian asset or underemployment of a US asset.

b. As a career WLB sailor, but not a career ice breaking sailor, I was able to quickly identify the strengths and weaknesses of the platform when operating in COAL SHOVEL. I note the following strengths:

(1) Endurance- WLBs can sustain themselves for substantially longer than WTGBs, making them an ideal asset for longer transits into Lake Huron and Lake Erie portions of the AOR.

(2) Seaworthiness- Specifically regarding open Lake transits (including Lake St. Clair), the WLB is more capable than WTGBs. Conditions that prove dangerous for the WTGB are easily navigated by the WLB, enabling an emergent response asset that otherwise would not be available.

c. The following weaknesses of the WLB remain a challenge in the COAL SHOVEL AOR:

(1) The WLB requires a minimum of 300 yards lateral distance to come about in ice conditions. This presents a challenge from Algonac to X32, where conditions often prevented HOLLYHOCK from coming about. Similarly, between X32 and the entrance to the Detroit River, there are few opportunities for the WLB to come about in heavy ice coverage. Operationally, this meant that passing Algonac going South of X32 going North translated to a 2-3 hour one way trip. Single asset escorts assignments along this corridor must consider this limitation.

(2) Heavy ice accumulation following sustained westerly winds to the approaches of Goderich, ON prove beyond the icebreaking capability of the WLB, and approaches the limits of much more capable Canadian assets. Approaching the harbor from the open Lake after a westerly wind enables a safe breakout. However, breaking out the harbor from within after westerly winds is not advised. If such winds are forecasted, and there is an operational requirement for WLB presence in the harbor, there significant risk for requiring assistance from another asset in breaking out the harbor.

d. Ms. Girard and BOSN Harward were consummate professionals for the duration of our time in the AOR. Their diligence and competence directly enabled operational success. HOLLYHOCK prototyped novel tactics, such as during operations in Goderich, ON and prepositioning in St. Clair, Michigan.

e. I recommend continuing to base COAL SHOVEL operations for HOLLYHOCK in Port Huron, representing close to a geographic center point between operational areas in Lake Huron and Lake St. Clair. Logistics are easy to arrange and response times, ideal, within the entire AOR, both for ice and SAR standby coverage.

Subj: OPERATION COAL SHOVEL AFTER ACTION REPORT,  
2019

16155  
17 May 2019

f. I look forward to OPERATION COAL SHOVEL in the future, and hope to provide constructive feedback to ensure that any commanding officer can succeed in meeting mission requirements.

#

Copy: CGD NINE (dpw)  
CGC MACKINAW  
CGC NEAH BAY  
CGC MOBILE BAY  
CGC BRISTOL BAY  
CGC ALDER  
CGC MORRO BAY  
CGC KATMAI BAY  
CGC BISCAYNE BAY

U.S. Department of  
Homeland Security

United States  
Coast Guard



Commanding Officer  
USCGC NEAH BAY (WTGB 105)

1055 E Ninth Street  
Cleveland, OH 44114-1092  
Phone: 216-701-8390  
Email: andrew.p.perodeau@uscg.mil

16155  
8 May 2019

## MEMORANDUM

PERODEAU.ANDREW.P.1013  
794088

Digitally signed by  
PERODEAU.ANDREW.P.1013.794088  
Date: 2019.05.08 15:35:33 -0400

From: A. P. Perodeau, LCDR  
CGC NEAH BAY (WTGB 105)

To: CG Sector Detroit

Subj: OPERATION COAL SHOVEL AFTER ACTION REPORT 2019

### 1. Summary of Operations:

- a. NEAH BAY shifted TACON to Op Coal Shovel on 11 February 2019 and was released from Op Coal Shovel on 16 February 2019.
- b. Of the 6 total days that the NEAH BAY crew was assigned to Op Coal Shovel, we were in an operational (Bravo-12 or higher) status for all 6 days and spent no days in Charlie. Of the 6 operational days, the NEAH BAY crew was away from homeport for 6 days working in the Western Basin and the Detroit/St Clair River system.
- c. In total, NEAH BAY provided 38 hours of icebreaking support to Op Coal Shovel, all of which was preventative icebreaking.

### 2. Operations:

- a. 11 Feb – 16 Feb: We shifted TACON to Sector Detroit at on 11 Feb and were underway at 0800 supporting operations. Due to the warmer January temperatures and slow onset of ice, very limited support was required from us for the operation. On two days, vessel escorts across Lake St Clair were required due to high winds, but otherwise, we mainly served as a ready assist vessel to be called if needed.
3. Engineering: We were fortunate this year and had no casualties to our engineering plant during Operation Coal Shovel.
  4. Commercial Icebreaking: Not applicable. Conducted no operations with commercial icebreakers.
  5. Effects on Other Missions: No other missions were assigned during this domestic icebreaking season.
  6. Public Affairs: Not applicable. We did not conduct any public affairs while assigned to the operation.

ENCLOSURE 4

Subj: OPERATION COAL SHOVEL AFTER ACTION REPORT,  
2019

16155  
8 May 2019

7. Recommendations/Comments: I have no concerns about the operation this year, but I will keep two of my previous year comments in the AAR as I believe they are best practice.

a. Rotate Ship Locations – Although seemingly minor, the ability to operate in a new/different area helps manage crew fatigue and complacency. Rotating the WLE cutter and the SE Bend cutter every week or so would help with this.

b. Institute a Morning Cutter Call – Operation Taconite does this to great effect. Each of the units underway, including the Canadian assets call in at 0730. The call lasts approximately 15 minutes. In the call, we get intended vessel movement, asset locations, and tasking. Even if the picture changes throughout the day, it starts everyone off on the same page.

#

Copy: CGD NINE (dpw)  
CGC MACKINAW

U.S. Department of  
Homeland Security

United States  
Coast Guard



Commander  
United States Coast Guard  
Sector Sault Sainte Marie

337 Water Street  
Sault Sainte Marie, MI 49783  
Staff Symbol: vts  
Phone: (906) 635-3299  
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Email: mark.s.gill@uscg.mil

16150  
23 May 2019

## MEMORANDUM

From:  P. S. Nelson, CAPT  
CG SECTOR Sault Sainte Marie (s)

To: CGD NINE (d)  
Thru: (1) CGD NINE (dpw)  
(2) CGD NINE (dp)

Subj: OPERATION TACONITE, END OF SEASON REPORT

Ref: (a) Domestic Ice Breaking Operations Policy, COMDTINST 16151.1D  
(b) D9 Ice Breaking Standard Operating Procedures (SOP), D9INST M16150.2B

1. During the 2019 domestic ice-breaking season, the six U.S. Coast Guard cutters and two Canadian Coast Guard ships assigned to Operation Taconite spent a total of 4,181 hours in the ice and assisted 590 commercial vessel transits. Of these transits, 155 (72 US, 83 CA) required direct icebreaker assistance to complete their intended movements.
2. Operation Taconite commenced on 07 January and ended on 26 April 2019. Great Lakes maritime industry stakeholders estimate 11.5 million tons of dry bulk (iron ore, salt, coal, stone and cement) and liquid (gasoline, diesel, and home heating oil) cargoes received ice-breaking assistance during the 2019 winter navigation season. These cargoes, valued at more than \$414 million, provided critical industrial production and power generation capability for the Great Lakes region during the 109-day operational period. In Operation Taconite's area of responsibility, U.S. Coast Guard cutters delivered 239 hours of ice breaking in Canadian waters and Canadian Coast Guard ships conducted 195 hours of icebreaking in U.S. waters.
3. The National Oceanographic Atmospheric Administration (NOAA), with input provided by the Great Lakes Environmental Research Laboratory (GLERL), classified the 2019 ice season as "average." An analysis of the 2019 winter weather and ice thickness measurements appears in enclosure 1. Enclosure 2 contains the performance measures and statistical data summaries required by references (a) and (b). Enclosure 3 contains recommendations for process improvement.

Subj: OPERATION TACONITE END OF SEASON REPORT

16150

23 May 2019

4. My point of contact for domestic icebreaking operations is Mr. Mark Gill, the Director of Vessel Traffic Service St. Marys River. You can reach Mr. Gill at (906) 635-3299.

#

3 Enclosures

Copy: CG-5PW

All CGD NINE Sectors and Cutters

CG AIRSTA Traverse City

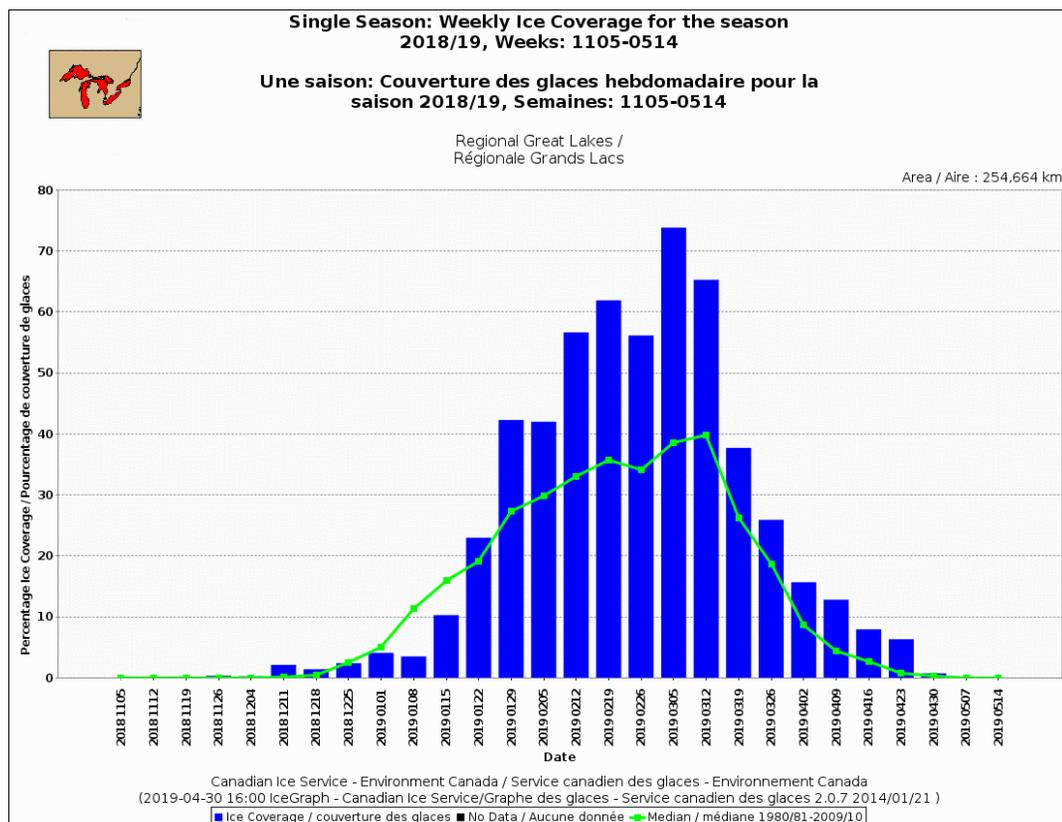
MSU Duluth

## Weather Analysis and Ice Thickness Measurements:

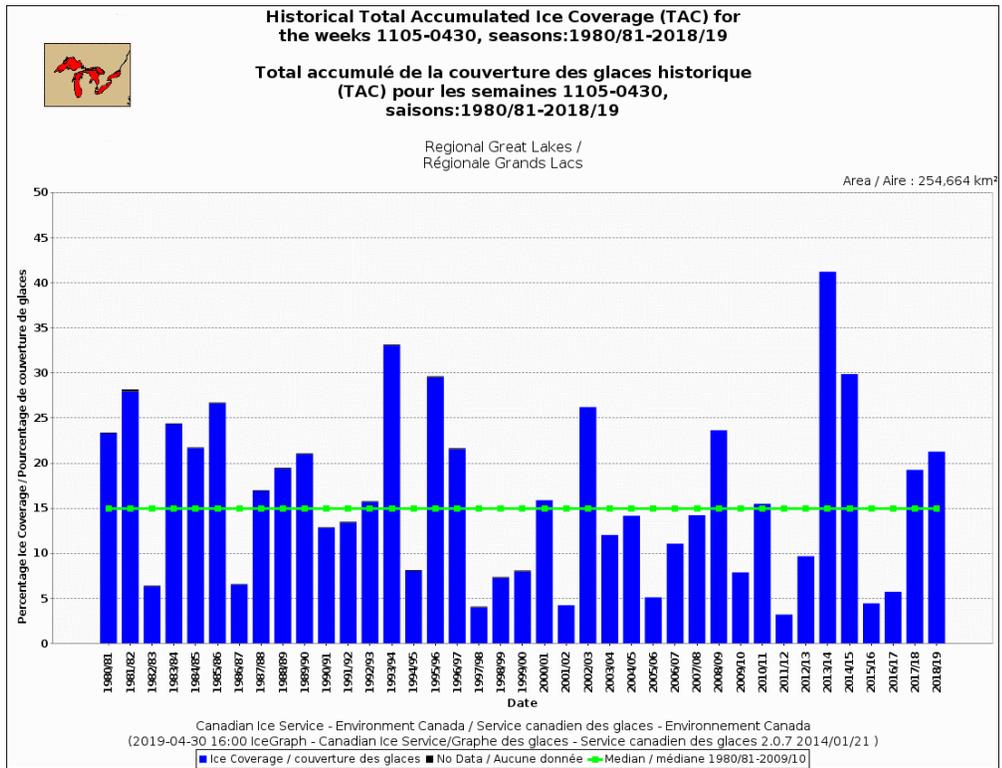
The National Oceanographic Atmospheric Administration (NOAA), with input provided by the Great Lakes Environmental Research Laboratory (GLERL), classified the 2019 ice season as “average”. Great Lakes percentage of ice cover peaked at 75% on March 06, 2019. Lake Superior’s percentage of ice cover reached 93% on March 07, 2019. Although the percentage of ice cover was higher than average, the thickness of ice across the area of responsibility was below average. Many experts attribute this phenomenon to above average snowfall for many parts of the region.

The following table summarizes the maximum ice conditions observed in key locations of the Operation Taconite area of responsibility.

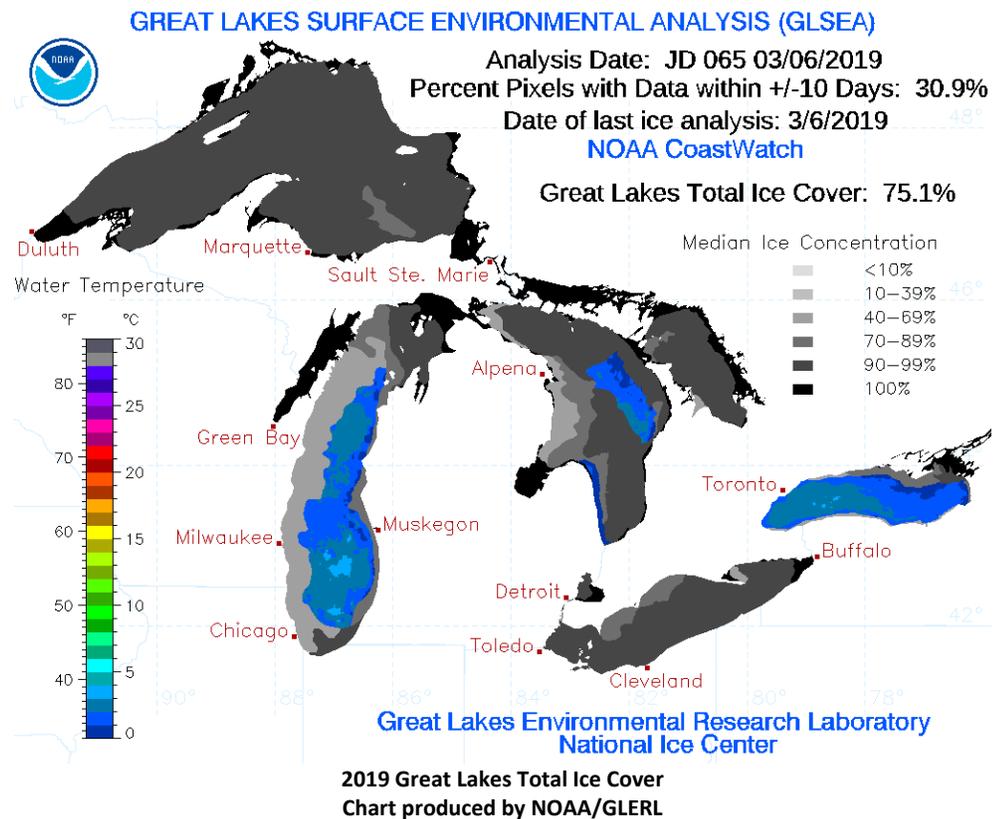
- a. Thunder Bay: 18-24” plate ice with 6” snow cover.
- b. Duluth-Superior: 12-18” plate ice with 1’ brash accumulations.
- c. Lake Superior (west): 12” plate ice with 1-2’ windrows.
- d. Lake Superior (east): 12-18” plate ice w/ 6-8’ brash accumulations.
- e. Whitefish Bay: 18-24” plate ice with 6” snow cover.
- f. St. Marys River: 12-18” plate ice with 6” snow cover.
- g. Straits of Mackinac: 12-18” plate ice with 2-4’ windrows.
- h. Green Bay (North): 18-24” plate ice with 6” snow cover.
- i. Green Bay (South): 12-18” plate ice with 6” snow cover.
- j. Georgian Bay: 24-36” plate ice with 6” snow cover.



**Single Season: Weekly Ice Coverage  
Compared to the Median (1981-2010)**  
Chart produced by the Canadian Ice Service



**Great Lakes Total Accumulated Ice Coverage 1980-2019**  
**Compared to the Median (1981-2010)**  
**Chart produced by the Canadian Ice Service**



## 1. Performance Measures:

- a. Search and Rescue Response Requests: Three events (MISLE Cases 1160605, 1161409, and 1168517).
- b. Urgent Vessel Assistance Requests: Two events (MISLE WWM Activities 6650073 and 6652817).
- c. Exigent Community Service Requests: None.
- d. Icebreaking Service Requests: The Incident Commander (IC) received 605 requests for ice breaking assistance; 2 requests declined.
  1. 28 January 2019: Algoma Central requested to delay COTP Lake Michigan's 30 January closure of the Green Bay Regulated Navigation Area. M/T ALGONOVA was unable to make the prescribed transit window for the second of two tanker transits scheduled for the Port of Green Bay. With public notification already executed, I/C declined to keep the waterway open.
  2. 22 March 2019: Interlake Steamship Corporation and Central Marine Logistics Company requested Coast Guard icebreaking assistance for the Sturgeon Bay Ship Canal. The contracted commercial provider hired to facilitate carrier departures from Fincantieri Bay Shipbuilding Facility suffered an engine casualty. Four additional commercial providers stated their availability for the work. I/C declined the request, citing the district's commercial icebreaking policy as the rationale.
- e. Vessel Transits Assisted: Op Taconite resources assisted 590 vessel transits. Of the total transits assisted, 155 vessels (72 U.S. and 83 CA) required direct ice breaking assistance to complete their intended movements.
- f. Waterway Restrictions: There were three events (03-SMR), totaling 22 hours of waterway restriction. MISLE WWM Activities: 6650073, 6653284, and 6654846 document the events.
- g. Waterway Closures: There were six events (05-SMR / 01-Straits) totaling 175 hours of waterway closure. MISLE WWM Activities: 6647964, 6652409, 6652917, 6655136, 6655951, along with 6657403 document the events
- h. Tier 1 Availability: 96% (Avg 2522 of 2620)  
St Marys River 94%; 2467 of a possible 2620 hours.  
Straits of Mackinac 98%; 2576 of a possible 2620 hours.
  1. Extended Navigation Season: St Marys River 100% (336/336) / Straits 100% (336/336)
  2. Winter Navigation Season: St Marys River 100% (1176/1176) / Straits 100% (1176/1176)
  3. Spring Break Out: St Marys River 86% (955/1108) / Straits 96% (1064/1108)

i. Planned Waterway Closures: Per 33 CFR Parts 162.117 and 165.901, the following waterways were purposely closed or restricted by the Captain of the Port Sault Sainte Marie.

- |   |                                   |
|---|-----------------------------------|
| 1. Grays Reef Passage:                      | 17-Jan-19 to 15 Apr-19 (88 days)  |
| 2. South Channel:                           | 17 Jan-19 to 29-Mar-19 (71 days)  |
| 3. Waters Btwn Mackinac Is. and St. Ignace: | 28-Jan-19 to 25-Mar-19 (56 days)  |
| 4. West Neebish Channel:                    | 16-Jan-19 to 31-Mar-19 (74 days)  |
| 5. Pipe Island Passage:                     | 05 Jan-19 to 24-Mar-19 (78 days)  |
| 6. Little Rapids Cut (Ice Boom):            | 05-Dec-18 to 23-Apr-19 (139 days) |

**2. Statistical Summary:**

**a. Aerial Support:**

HH60	01 Sortie
CG Auxiliary	00 Sorties
CCG Dash-8	01 Sortie

**b. Cutter Employment:**

**Area 4A (Lake Huron / Georgian Bay / North Channel) – 155 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	02	000	000	00	00	105	00	01	00
Bristol Bay	00	040	000	00	00	008	00	00	00
<b>Totals</b>	<b>02</b>	<b>040</b>	<b>000</b>	<b>00</b>	<b>00</b>	<b>113</b>	<b>00</b>	<b>01</b>	<b>00</b>

**Area 4B (Lake Huron / Alpena / Calcite Hbr) - 11 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Hollyhock	00	006	000	00	00	000	00	00	00
Neah Bay	00	000	001	00	00	004	00	00	00
<b>Totals</b>	<b>00</b>	<b>006</b>	<b>001</b>	<b>00</b>	<b>00</b>	<b>004</b>	<b>00</b>	<b>00</b>	<b>00</b>

**Area 5A (Straits of Mackinac) - 1376 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	026	036	018	00	00	079	00	05	00
Alder	038	086	023	00	00	246	02	05	00
Hollyhock	072	059	000	06	00	077	05	08	00
Bristol Bay	028	018	026	05	00	120	08	02	00
Neah Bay	029	097	014	00	00	029	07	05	00
Katmai Bay	039	137	003	00	00	043	03	07	00
Pierre Radisson	000	000	010	00	00	012	00	00	00
<b>Totals</b>	<b>232</b>	<b>433</b>	<b>094</b>	<b>11</b>	<b>00</b>	<b>606</b>	<b>25</b>	<b>32</b>	<b>00</b>

**Area 5B (Charlevoix / Grand Traverse Bay) - No Cutter Activity**

**Area 6A (Whitefish Bay) – 926 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	046	148	046	00	00	181	32	20	00
Alder	000	000	011	00	00	000	00	00	00
Hollyhock	006	070	016	00	00	078	03	07	00
Neah Bay	002	077	000	00	00	107	00	00	00
Katmai Bay	006	049	000	00	00	044	01	00	00
Samuel Risley	000	000	015	00	00	024	00	00	00
<b>Totals</b>	<b>060</b>	<b>344</b>	<b>088</b>	<b>00</b>	<b>00</b>	<b>434</b>	<b>36</b>	<b>27</b>	<b>00</b>

**Area 6B (St Marys River - 1105 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	026	136	024	00	00	123	02	07	00
Alder	000	019	023	00	00	058	00	00	00
Hollyhock	000	000	004	00	00	000	00	00	00
Bristol Bay	002	016	005	00	00	027	01	01	00
Neah Bay	009	065	049	03	00	080	00	02	00
Katmai Bay	020	121	083	20	00	058	01	03	00
Samuel Risley	004	035	014	01	00	080	00	03	00
<b>Totals</b>	<b>061</b>	<b>392</b>	<b>202</b>	<b>24</b>	<b>00</b>	<b>426</b>	<b>04</b>	<b>16</b>	<b>00</b>

**Area 7A (Eastern Lake Superior / Marquette) – 24 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Neah Bay	000	000	008	00	00	016	00	00	00
<b>Totals</b>	<b>000</b>	<b>000</b>	<b>008</b>	<b>00</b>	<b>00</b>	<b>016</b>	<b>00</b>	<b>00</b>	<b>00</b>

**Area 7B (Central Lake Superior / Keweenaw) – 19 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Alder	000	000	009	00	00	010	00	00	00
<b>Totals</b>	<b>000</b>	<b>000</b>	<b>009</b>	<b>00</b>	<b>00</b>	<b>010</b>	<b>00</b>	<b>00</b>	<b>00</b>

**Area 8A (Duluth, Superior) - 77 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	00	000	024	00	00	000	00	00	00
Alder	00	013	004	00	00	036	00	00	00
<b>Totals</b>	<b>00</b>	<b>013</b>	<b>028</b>	<b>00</b>	<b>00</b>	<b>036</b>	<b>00</b>	<b>00</b>	<b>00</b>

**Area 8B (Two Hbrs, Silver Bay, Apostle Islands) - 23 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	00	005	002	00	00	000	00	00	00
Alder	13	000	003	00	00	000	03	01	00
<b>Totals</b>	<b>13</b>	<b>005</b>	<b>005</b>	<b>00</b>	<b>00</b>	<b>000</b>	<b>03</b>	<b>01</b>	<b>00</b>

**Area 8C (Thunder Bay, Ont) - 84 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Alder	04	042	000	00	00	038	00	02	00
<b>Totals</b>	<b>04</b>	<b>042</b>	<b>000</b>	<b>00</b>	<b>00</b>	<b>038</b>	<b>00</b>	<b>02</b>	<b>00</b>

**Area 9 (Green Bay, Escanaba, Marinette) - 261 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	07	046	010	00	00	039	00	04	00
Neah Bay	01	041	000	00	00	055	02	00	00
Katmai Bay	04	022	003	00	00	033	02	00	00
<b>Totals</b>	<b>12</b>	<b>109</b>	<b>013</b>	<b>00</b>	<b>00</b>	<b>127</b>	<b>04</b>	<b>04</b>	<b>00</b>

**Area 10A (Lake Michigan-West Milwaukee) No Cutter Activity**

**Area 10B (Lake Michigan-South Calumet-Gary-Indiana-Burns Hhrs) - 120 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Alder	00	000	000	00	00	120	00	00	00
<b>Totals</b>	<b>00</b>	<b>000</b>	<b>000</b>	<b>00</b>	<b>00</b>	<b>120</b>	<b>00</b>	<b>00</b>	<b>00</b>

**Area 10C (Lake Michigan-East Ludington) No Cutter Activity**

**Op Taconite Totals**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF	Total Hrs in the Ice
Mackinaw	107	371	124	00	00	0527	34	37	00	1129
Alder	055	160	073	00	00	0508	05	08	00	0796
Hollyhock	078	135	020	06	00	0155	08	15	00	0394
Bristol Bay	030	074	031	05	00	0155	09	03	00	0295
Neah Bay	041	280	072	03	00	0291	09	07	00	0687
Katmai Bay	069	329	089	20	00	0178	07	10	00	0685
Pierre Radisson	000	000	010	00	00	0012	00	00	00	0022
Samuel Risley	004	035	029	01	00	0104	00	03	00	0173
<b>Totals</b>	<b>384</b>	<b>1384</b>	<b>448</b>	<b>35</b>	<b>00</b>	<b>1930</b>	<b>72</b>	<b>83</b>	<b>00</b>	<b>4181</b>

**3. Night Operations:** U.S. Coast Guard cutters and Canadian Coast Guard ships assigned to Operation Taconite conducted 46 hours of nighttime ice breaking.

**4. Sufficiency/Adequacy of Icebreaking Assets:** Unsatisfactory; due to organizational failure to restore CGC BISCAYNE BAY and CGC MORRO BAY to operational service in time to meet icebreaking commitments.

<b>Seasonal Lost Cutter Hours</b>			
<b>Cutter</b>	<b>Casualty Related</b>	<b>Other - Logistics</b>	<b>Casualty (Unsked Charlie)</b>
MACKINAW	00	08	Flapper for Aux Generator
KATMAI BAY	284	26	ECDIS/Switchboard/Injured crew member / #2 PROPGEN/ Fathometer/Shaft Seal
ALDER	08	00	ASW Failure-Loss of cooling to MDE/Aux Systems
HOLLYHOCK	05	05	Gyro Error / Medical

## 5. MISLE Summary:

Planned Waterway Closures	Date Closed	Date Opened	Authority	Rmks
6606034	01/05/19	03/24/19	33 CFR 162.117	Pipe Island Channel - VTS SMR closed Pipe Island Channel until further notice. Pipe Island Course becomes an alternating one way route.
6611562	01/16/19	03/31/19	33 CFR 162.117	West Neebish Channel - VTS SMR closed the West Neebish Channel until further notice.
6611573	01/17/19	4/15/19	33 CFR 165.944	Grays Reef Passage - COTP SSM closed Grays Reef Passage until further notice.
6611579	01/17/19	03/29/19	33 CFR 165.944	South Channel - COTP SSM closed South Channel until further notice.
6616608	01/28/19	03/25/19	33 CFR 165.944	Moran Bay - COTP SSM closed the waters btwn Mackinac Island and St Ignace until further notice.
6616744	01/30/19	04/02/19	33 CFR 165.901	Southern Green Bay - COTP LM closed the southern Green Bay RNA until further notice.

Waterway Controls	Date Activated	Date Rescinded	Authority	Rmks
6592518	12/05/18	04/23/19	33 CFR 161.11	281450Z NOV 2017: The US Army Corps of Engineers commissioned Little Rapids Cut Lighted Ice Buoy 98B (LLNR 14105). The LIB marks the upstream end of the ice boom on the eastern side of the river, restricting the channel width to 385 ft. Due to the channel restriction, VTS ST Marys River directs no meeting or overtaking between LT 98 (LLNR 14100) and Mission Point Obstruction LT "C" (LLNR 14145). 231800Z Apr 19: USACE deactivated the ice control booms at Little Rapids Cut and decommissioned LIB 98B. VTS rescinded the one way traffic measure and restored two way movement to the waterway.
6650507	3/25/19	3/31/19	33 CFR 161.11	251100Z: With the West Neebish Channel closed, VTS SMR established a draft restriction of 26'6" to safe guard vessels transiting up and down the Middle Neebish Channel until further notice. 311200Z: VTS SMR River opened the West Neebish Channel. The draft restriction for the Middle Neebish Channel was rescinded.
6652385	3/31/19	4/9/19	33 CFR 161.11	To protect the West Neebish Channel from ice damage, VTS SMR directs minimum safe speed from West Neebish Channel LT 45 to West Neebish Channel LT 29 until further notice. A draft restriction of 27'6" is in place until further notice. 031100Z, with the threat of ice damage to the channel eliminated, VTS rescinded the draft restriction for the West Neebish Channel and modified the boundary of the speed directive, "Sand Island to West Neebish Channel LT 29. 091200Z, with no ice to threaten ferry operations, VTS SMR rescinded the speed measure placed on the West Neebish Channel.

Waterway Events	DTG Start	DTG Ended	Restriction Time	Rmks
6598723	12/17/18	4/17/19	33 CFR 207.440	171000Z Dec 18: MacArthur Lock Closure - USACE closed the MacArthur Lock for winter maintenance. 171900Z Apr 19: MacArthur Lock Reopened - USACE opened the MacArthur Lock for the 2019 Navigation Season.
6606364	1/7/2019	26-Apr	N/A	070100Z DEC 19: Commenced Op Taconite 261600Z APR 19: With the remaining ice cover no longer a hindrance to commercial navigation, COTP Sault Sainte Marie secured Operation Taconite. During the 109 days of the 2019 domestic icebreaking season (07 Jan – 26 Apr), the eight U.S. and Canadian Coast Guard vessels assigned to Operation TACONITE delivered 1,803 hours of icebreaking to the benefit of 590 vessel transits; 155 of these transits required direct ice breaking assistance. This work also served the needs of eight island communities and fulfilled 605 individual icebreaking service requests. These same icebreaking vessels put forth an additional 2,378 hours of preventative icebreaking to establish and maintain tracks in the ice choked waterways of Green Bay, the Straits of Mackinac, the St Marys River, Georgian Bay and western Lake Superior.  Industry officials estimate more than 11 million tons of dry bulk cargoes shipped during the 109 days of this op period. This translates to \$414 million dollars of commodities critical to power generation, industrial productivity and public safety, moved during the harsh winter months of the 2019 domestic ice-breaking season.
6611563	1/16/19	3/25/19	33 CFR 207.440	160250Z Jan 19: Poe Lock Closure - USACE closed the Poe Lock for winter maintenance. 250011Z MAR 19: USACE passed the STEWART J CORT (U/B) through the Poe Lock officially starting the 2019 Great Lakes Navigation Season.

Waterway Events	DTG Start	DTG Ended	Restriction Time	Rmks
1160605	1/30/19	1/30/19	N/A	SAR: 300005Z, SEC SSM received a request to MEDEVAC a 56-year-old female from the Mackinac Island Medical Clinic. The patient reported shortness of breath. The clinic was not able to conduct extensive testing to diagnose the patient. The clinic's doctor was concerned the patient may be suffering from a pulmonary embolism. Due to foul weather, no commercial medical flights were available. CGC KATMAI BAY, diverted from their transit to SEC SSM, transported the patient and paramedic from Mackinac Island to St Ignace. MISLE 1160605 documents the events of the SAR response.
1161409	2/7/19	N/A	N/A	071847Z, SEC SSM received a request to MEDEVAC a 72-year-old female from the Mackinac Island Medical Clinic. The patient reported chest pains, dizziness, and shortness of breath. The clinic was not able to conduct extensive testing to diagnose the patient. The clinic's doctor was concerned the patient may be suffering from a pulmonary/cardiac event. Due to foul weather, no flights were available. CGC ALDER sailed from STA St Ignace, transported the patient and paramedic from Mackinac Island to St Ignace. MISLE 1161409 documents the events of the SAR response.
6647964	232200Z MAR 19	251800Z MAR 19	40 hrs	232200Z STEWART J CORT (E/B in ballast for Two Hhrs) beset in ice near White Shoal. This vessel stopped by ice forced ALGOMA INNOVATOR (E/B in ballast for Windsor) to halt their progress constituting a waterway restriction. 241200Z STEWART J CORT backed down their track and came ahead freeing themselves. ALGOMA INNOVATOR sailed behind them but was unable to enter the CORTs track. This forced E/B M/Vs WILFRED SYKES, PAUL R TREGURTHA, and JAMES R BARKER and the W/B Tug SHARON M1 to halt their progress. CGC HOLLYHOCK is underway to assist. 241800Z CGC HOLLYHOCK requested additional I/B support due to the excessive windrows obstructing the western Straits. I/C dispatched CGC KATMAI BAY from the SMR to assist. 251800Z CGCs HOLLYHOCK and KATMAI BAY freed the beset vessels restoring east and west movement to the Straits. MISLE WWM Act 6647964 documents the 44-hour waterway closure. * Restriction lasting more than 24 hrs constitutes a closure.

Waterway Events	DTG Start	DTG Ended	Restriction Time	Rmks
6652409	260924Z MAR 19	271935Z MAR 19	34 hrs 11 mins	260924Z, due to a "plug" of ice (4nm x 20+ nm x 4') restricting vessels arriving and departing from Lake Superior. VTS St Marys River began to sequence vessels up and down to the locks. This created a waterway restriction lasting more than 24 hrs. 271935Z: With the plug lifted by SW winds, traffic moved in and out of Whitefish Bay without need of direct icebreaker assistance. MISLE WWM Act 6652409 documents the 34 hrs 11 mins waterway closure. * Restriction lasting more than 24 hrs constitutes a closure.
6650073	270659Z MAR 19	271310Z MAR 19	7 hrs 11 mins	270559Z M/V MESABI MINER (D/B with coal for St Clair, MI) beset at Winter Point. VTS SMR learned from the Sector Command Center that the vessel reportedly holed themselves in the ice and was taking on water. I/C dispatched CGC KATMAI BAY from the Straits of Mackinac to assist the vessel taking on water with an eta of 1100Z. The MINER stopping in the Middle Neebish Channel prevented the PAUL R TREGURTHA, JAMES R BARKER, and ALGOMA SAULT from advancing up the river. This also constituted a waterway restriction. 0651Z the MINER reported the hole to their #1 ballast tank (port) was flooding uncontrollably. The master planned to flood the tank and asked to transit to their next port to offload cargo then make temporary repairs. OCMI approved the request. 1310Z CGC KATMAI BAY freed the MESABI MINER and escorted them down through the lower river. VTS SMR called for the up bound movement of the three anchored vessels. The resultant waterway restriction was 7 hours. I/C classified the event as an urgent vessel assistance request due to the emergent nature of the assistance needed. MISLE WWM Act 6650073 documents the incident.
6652817	310703Z MAR 19	311000Z MAR 19	N/A	310703Z M/V WILFRED SYKES (W/B ore for Indiana Hbr) called the CGC NEAH BAY. The vessel beset in a shifting field of ice was concerned about going aground. CGC NEAH BAY, hove to in the ice near the SYKES, got underway and broke the vessel free from the plate. MISLE WWM Act 6652817 documents the urgent vessel assistance request.

Waterway Events	DTG Start	DTG Ended	Restriction Time	Rmks
6652971	311530Z MAR 19	020100Z APR 19	33 hrs 30 mins	311530Z CGC MACKINAW reported to VTS that the "plug" backed by the strong northwesterly winds resealed the north end of Whitefish Bay. Vessels are unable to enter or leave without direct icebreaker assistance. Because of the restriction to the north entrance to Whitefish Bay, VTS SMR is sequencing vessels to and from the locks to prevent a backlog of ships in WF Bay. 010100Z: CGC MACKINAW assisted seven down bound vessels through the plug before securing for the night. 020100Z: CGC MACKINAW completed their escort of five up bound vessels. SW winds eased the pressure on the north entrance to WF Bay. The resultant 33 hrs 30 mins waterway closure affected seven down bound and five up bound vessels. MISLE WWM ACT 6652917 documents the waterway closure.
6653284	010123Z APR 19	011230Z APR 19	11 hrs 7 Mins	010123Z: AMERICAN MARINER (U/B In ballast) beset at Winter Pt. The vessel stopping forced the AMERICAN SPIRIT to halt their progress and anchor. 011130Z: CGC KATMAI BAY u/w to assist. 011230Z: MARINER was freed and moving up bound. VTS called for the AMERICAN SPIRIT to continue their transit up the river. The resultant 11 hrs 07 min restriction affected two up bound vessels. MISLE WWM Act 6653284 documents the event.
6654846	030700Z APR 19	031100Z APR 19	4 hrs	030700Z: Strong NW winds released a field of thick lake ice into the path of the KAYE E BARKER (D/B). The ship stopped short of the ice and elected not to proceed until a breaker was available to assist. As a result, VTS SMR directed the SAGINAW (U/B) not to depart the Algoma Steel facility until further notice. 1100Z: The field of ice blocking the path of the KEB moved east of the ship's path allowing them to proceed. VTS SMR released the SAGINAW allowing them to sail. MISLE WWM Act 6654846 documents the 4-hour waterway restriction.

Waterway Events	DTG Start	DTG Ended	Restriction Time	Rmks
6655136	031600Z APR 19	041730Z APR 19	25 hrs 30 mins	031600Z: Strong northwesterly winds created hazardous ice conditions in WF Bay, VTS SMR closed the Upper St Marys River until further notice. 041200Z VTS SMR initiated the movement of three up bound vessels from the locks complex. 041200Z: VTS SMR initiated the movement of three up bound vessels from the Soo Locks. At the moment six down bound vessels and five up bound vessels are affected by the WW closure. 041730Z: With the restoration of up and down bound tracks through WF Bay, VTS SMR reopened the upper St Marys River to unrestricted movement. 6 d/b and 5 u/b vessels were affected by the 25 hrs 30 mins waterway closure. MISLE WWM ACT 6655136 documents the WW Closure.
6655951	041238Z APR 19	051100Z APR 19	22 hrs 22 mins	041238Z: JOHN J BOLAND (U/B in ballast for Silver Bay) beset at Winter Pt. Vessel unable to back down in the ice due to a discrepant ice buoy that drifted into the channel and now blocks the vessel's stern. As a result of the vessel stopping, PAUL R TREGURTHA was forced to halt their up bound progress which creates by definition a waterway restriction. CGC KATMAI BAY moored SEC SSM is tasked to assist. The cutter is refueling and has divers down to replace the transducer from the ship's fathometer. ETD 042000Z. 042200Z: CGC KATMAI BAY rpts the new transducer is cracked and unservicable. The divers replaced the exterior cover then the CO sought and received a safe to sail waiver from CCGD9. The cutter is underway w/o a fathometer, eta 050001Z. 050130Z: CGC KATMAI BAY arrived and freed the beset vessel. With the onset of darkness and the uncertain impact the discrepant buoy will have on overnight movements, VTS SMR will keep the Middle Neebish Channel closed until daybreak. 051100Z: VTS SMR opened the Middle Neebish Channel. Six upbound vessels affected by the 22 hr 22 min waterway closure.

Waterway Events	DTG Start	DTG Ended	Restriction Time	Rmks
6657403	071535Z APR 19	081235Z APR	21 hrs	CGC MACKINAW underway in route Mud Lake with an eta of 1730Z. 071830Z, CGC MACKINAW called for down bound movement. 072130Z, CGC MACKINAW recommends waterway closure until the winds shifts north. VTS SMR closed the VTS area until further notice. 081115Z, with CCGS GRIFFON, CGCS MACKINAW and NEAH BAY on scene, VTS SMR called for the restoration of down bound movement. 081235Z, with the risk to navigation abated, VTS SMR reopened the VTS area to unrestricted movement. MISLE WWM Act 6657403 documents the 15-hour waterway closure.
6661627	130830Z APR 19	131400Z APR 19	N/A	130830Z, VTS SMR rcvd several reports from vessels arriving and trying to depart Duluth-Superior. On the NE gale, rotten lake ice obstructed the Duluth and Superior Entrances. I/C directed CGC ALDER to recall their crew and prepare to sail. 1400Z, following a shift in the wind, pressure on the ice eased and access to both entrances was restored. CGC ALDER stood down but assumed a B2 readiness posture until nightfall. Five arriving and one departing vessel affected by the waterway restriction. MISLE WWM Act 6661627 documents the event.
1168517	160323Z APR 19	160705Z APR 19	N/A	160323Z APR 19, SEC SSM requested the assistance of CGC MACKINAW in the search for an overdue ice fisherman. The subject was believed to have fallen through the ice near Pendills Bay. MISLE Case 1168517 documents the event.

MISLE waterway management activities documenting “ice and wx analysis”, “industry outreach”, and “tfc management tasks” performed by the sector staff are not listed in this summary but are available upon request.

I offer the following recommendations for process improvement:

1. Logistics Functions Needing Your Support:

a. Lost Cutters Hours: Op Taconite underwent 329 hours of lost cutter support due to mechanical failures. This number balloons to 4,317 when one factors in the failure to restore CGC BISCAYNE BAY and CGC MORRO BAY to full mission capability in time to support the domestic icebreaking mission. Had CGC KATMAI BAY not operated on a “safe to sail” waiver for the damaged shaft seal, the lost cutter support figure exceeds 6200 hours for the 2019 season. The collective losses adversely affected domestic ice breaking operations and this spring was directly responsible for diminished “Tier 1” and “Tier 2” waterway availability, as recorded in paragraph 1.h. of enclosure 2.

i. Post SLEP availability: The mechanical failures suffered by CGC KATMAI BAY continue to highlight the problems SLEP WTGBs encounter post availability. Nearing the completion of the WTGB Service Life Extension Project, the window to rectify these circumstances is rapidly closing. A post project evaluation of these failures could prevent similar occurrences from adversely affecting future revitalization efforts (i.e. WLB SLEP).

ii. Cutter logistics: A percentage of the lost cutter hours is attributable to purchasing and shipping irregularities. I recommend we revisit the associated business rules to minimize impactful delay of parts and supplies destined for operational cutters, especially those not mission capable.

b. Unmanned Aerial Systems (UAS) to the Straits: The UAS is proving to be an exceptional and yet cost effective surveillance tool, one that is extremely beneficial to the domestic icebreaking mission. Until every cutter can be equipped with a UAS, recommend you consider reassigning a UAS to a unit operating in/near the Straits of Mackinac (i.e. CGC MACKINAW, CGC BISCAYNE BAY, or STA St Ignace). Having a UAS in Duluth is a benefit but with limited resources, the Straits area has a greater need for that system.

c. Messaging the DOMICE mission: We should not wait until the end of season summaries to inform senior leadership about the impactful actions supported by the icebreaking mission. Statistical data, reports of urgent vessel assistance, exigent community service, and the economic impact of waterway closures are just a few examples of information readily available but often not reported in near real time to senior leadership. Recommend we gather with command center leaders to evaluate the types of data we seek to share then revisit our daily reporting processes to make sure tactical leaders are providing worthwhile data sets.

d. DOMICE and the shutdown: A great deal of confusion surrounded the lapse in government funding and the execution of domestic icebreaking. Commandant instruction clearly defines what activities the icebreaking mission can and cannot support during a lapse in government appropriation. Recommend consideration of the Finance Resource Management Manual with the goal of creating a quick response guide for future reference.

e. Timing of the St. Lawrence Seaway opening: We saw a conflict develop this spring between the icebreaking needs of the Great Lakes and those of the St. Lawrence Seaway. Although this is not a new phenomenon, members of the commercial shipping industry publically scrutinized the placement of scarce icebreaking assets, which unnecessarily fueled tensions magnified by the planned absence of CGC MOBILE BAY and the unscheduled loss of CCGS SAMUEL RILEY, CGC BISCAYNE BAY, and CGC MORRO BAY. Recommend we engage our Canadian CG partners and approach St Lawrence Seaway officials with a goal of coordinating the opening of seaway infrastructure. We should strive to avoid overburdening either system before the respective waterways and the assets charged to service them are prepared to receive additional commercial vessels.

f. Great Lakes ice conference format: I recommend modifying the plan for the Great Lakes ice conference to include a problem-solving forum. Each year, we gather many of the Great Lakes shipping industry's subject matter experts at the conference, whose knowledge and experience we ought to leverage to improve Great Lakes icebreaking operations. In addition to sharing weather forecasts and statistic reports, I recommend we choose a problem in the spring, study it over the summer, with a goal of facilitating a resolution at the conference. Subjects such as the commercial assistance policy, its availability and lack of a capability clause, even the timing of the Seaway opening are excellent topics for determination.

2. Temporarily assigning CGC ALDER to the Straits of Mackinac for the winter navigation season was an absolute success. Despite concerns raised by shipping industry officials, ALDERs presence in the Straits rendered no adverse impact to the opening of western Lake Superior ports yet minimized the asset gaps created by the planned absence of CGC MORRO BAY (SLEP) and the unplanned losses of CGCs BISCAYNE BAY and MORRO BAY to engine failures. Although it will not be necessary to repeat the temporary assignment every year, knowing we can successfully do so is a critical fill to our "contingency toolbox".

3. I offer the support of my staff to provide further detail, answer questions, or to assist with these process improvement recommendations.

U.S. Department of  
Homeland Security

United States  
Coast Guard



Commander  
U.S. Coast Guard Sector Detroit

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16155  
21 May 2019

## MEMORANDUM

From:  J. W. Novak, CAPT  
CG SECTOR Detroit

To: CGD NINE (dpw)

Subj: 2018 – 2019 OPERATION COAL SHOVEL ANNUAL REPORT

Ref: (a) Domestic Icebreaking Policy and Reporting Requirements, COMDTINST 16151.1D  
(b) Ninth District Icebreaking Policy and Procedures, D9INST M16150.3  
(c) Operation Coal Shovel Standard Operating Procedures, SECDETINST 16150

1. This report outlines significant events during Operation Coal Shovel for the 2018 – 2019 ice season and is submitted in accordance with reference (b). A detailed summary of Operation Coal Shovel is contained in Enclosure (1).
2. Operation Coal Shovel commenced on January 18, 2019, and concluded on March 24, 2019. U.S. Coast Guard cutters conducted a total of 690 hours of icebreaking in support of Operation Coal Shovel.
3. The Sector Detroit point of contact for this report is LT Austin Moran at (313) 568-9508.

#

Enclosures: (1) Operation Coal Shovel Statistical Data Summary  
(2) Operation Coal Shovel Weekly Summaries  
(3) USCGC HOLLYHOCK End of Season Ice Report  
(4) USCGC NEAH BAY End of Season Ice Report

Copy: Sector Sault Ste Marie  
Sector Buffalo  
CGC BRISTOL BAY  
CGC MORRO BAY  
CGC HOLLYHOCK  
CGC NEAH BAY

# **2018-2019 Operation Coal Shovel Statistical Data Summary**

## **I. Winter Assessment**

Operation Coal Shovel began on January 18, 2019, and concluded on March 24, 2019, after 66 consecutive days. Efforts within the Operation Coal Shovel area of operations continued for an additional 43 days after March 24, 2019, to monitor Canadian ice breaking efforts in Eastern Lake Erie, but did not have an U.S. asset assigned. In the middle of January, sustained cold temperatures settled upon the region causing rapid ice growth in the St. Clair River and Western Lake Erie, prompting the initiation of Operation Coal Shovel. The cold temperatures and northerly winds caused high water levels resulting in flooding in the St. Clair River. Freezing temperatures persisted throughout the months of January, February and partially into March. Fluctuating temperatures until mid-February made it difficult to maintain tracks in the St. Clair River. While the St. Clair River and Western Lake Erie remained relatively ice free throughout March, floating plate ice continued to hinder commercial traffic requiring escorts. Ice continued to melt throughout March and commercial vessels were able to transit unhindered by ice in early April.

## **II. Icebreaking Data**

### **Season Totals:**

1. Total number of days for Operation Coal Shovel:
  - a. **66 days** - From January 18, 2019, to March 24, 2019
2. USCG Cutters and Canadian CG ships that participated in Operation Coal Shovel:
  - a. **USCG Cutters:** HOLLYHOCK, BRISTOL BAY, MORRO BAY, NEAH BAY
  - b. **Canadian Ships:** SAMUEL RISLEY, GRIFFON
3. Search and Rescue Response Requests: **01**
4. Urgent Vessel Response Requests: **01**
5. Exigent Community Service Requests: **04**
6. Vessel Direct Assists: **113**
  - a. **08** U.S. flag vessels
  - b. **89** Canadian flag vessels
  - c. **16** FF (Salties) vessels
7. Waterways Restrictions: **1**

- a. In accordance with 33 CFR 162.134(d), Captain of the Port Detroit imposed an one-way traffic pattern on the St. Clair River during the end of January, all of February and parts of March due to significant ice buildup causing ice jams and high water levels. This restriction required alternating one-way traffic and frequently required icebreaker escorts between Marine City and Light X32.

**8. Waterway Closures: 4**

- a. Waterway Closures became necessary several times due to high winds that made it unsafe for vessels to transit in ice infested waters.

**9. Aircraft Flyover hours ISO of Coal Shovel: 60 hours - 30 flights**

- a. Air Station Detroit provided 21 ice reconnaissance flights for Operation Coal Shovel during the 2017-2018 winter season. Aircrews performed two sorties per week during the heaviest ice weeks, frequently hosting a Sector Detroit Ice Observer.
- b. Coast Guard Auxiliary personal conducted nine ice reconnaissance flight for Operation Coal Shovel during the 2017-2018 winter season.

**10. Total Tier 1 Waterways Availability: 94%**

**Availability per Tier 1 Waterway:**

	<b>Hours</b>	<b>Hours Closed</b>	<b>Percentage Per Waterway</b>
a. St. Clair River	1584	96	94
b. Detroit River	1584	96	94
c. Pelee Passage	1584	96	94
g. St. Lawrence Seaway	Not included		

**11. Beset vessels: 04**

**12. Vessel Queue System:** Vessel queue system was briefly utilized twice this season with no issues/complaints from industry.

**13. Hours of icebreaking total by USCG Cutters: 690 (Day 537, Night 153)**

**Icebreaking Hours per USCG Cutter:**

<b>Cutter</b>	<b>Total Hours</b>
---------------	--------------------

- a. USCGC HOLLYHOCK: 170 hours
- b. USCGC BRISTOL BAY: 310 hours
- c. USCGC MORRO BAY: 137 hours
- d. USCGC NEAH BAY: 73 hours

**Icebreaking Hours per Area:**

<b>AREA 1 EASTERN LAKE ERIE</b>					
<b>CUTTER</b>	<b>DA</b>	<b>VA</b>	<b>PI</b>	<b>MC</b>	<b>TOTAL</b>
BRISTOL BAY	02	00	02	77	81
MORRO BAY	03	00	00	00	03

<b>AREA 2A WESTERN LAKE ERIE</b>					
<b>CUTTER</b>	<b>DA</b>	<b>VA</b>	<b>PI</b>	<b>MC</b>	<b>TOTAL</b>
MORRO BAY	08	00	00	00	08
NEAH BAY	00	00	10	14	24
BRISTOL BAY	04	12	00	39	55

<b>AREA 2B MAUMEE BAY</b>					
<b>CUTTER</b>	<b>DA</b>	<b>VA</b>	<b>PI</b>	<b>MC</b>	<b>TOTAL</b>
MORRO BAY	08	00	00	00	08

<b>AREA 3A DETROIT RIVER</b>					
<b>CUTTER</b>	<b>DA</b>	<b>VA</b>	<b>PI</b>	<b>MC</b>	<b>TOTAL</b>
BRISTOL BAY	5.5	05	00	35	45.5
NEAH BAY	00	00	02	05	07
MORRO BAY	12	05	03	04	24

<b>AREA 3B LAKE ST. CLAIR</b>					
<b>CUTTER</b>	<b>DA</b>	<b>VA</b>	<b>PI</b>	<b>MC</b>	<b>TOTAL</b>
BRISTOL BAY	18.5	18	12	11	59.5
NEAH BAY	08	00	02	02	12
MORRO BAY	22	04	02	03	31

<b>AREA 3C ST. CLAIR RIVER</b>					
<b>CUTTER</b>	<b>DA</b>	<b>VA</b>	<b>PI</b>	<b>MC</b>	<b>TOTAL</b>
BRISTOL BAY	26	35	00	08	69
NEAH BAY	02	00	11	04	17
MORRO BAY	39	05	03	16	63
HOLLYHOCK	10	43.5	00	10.5	64

<b>AREA 4A LAKE HURON</b>					
<b>CUTTER</b>	<b>DA</b>	<b>VA</b>	<b>PI</b>	<b>MC</b>	<b>TOTAL</b>
HOLLYHOCK	01	53.5	00	51.5	106
NEAH BAY	00	00	10	03	13

AREA 4B SAGINAW BAY					
CUTTER	DA	VA	PI	MC	TOTAL
N/A	0	0	0	0	0

**DA** = Direct Assistance  
**VA** = Vessel Assistance  
**PI** = Preventive Icebreaking  
**MC** = Miscellaneous

### III. Opportunities for Improvement and Best Practices

#### 1. Opportunities for Improvement

- a. Several decisions made by Operation Coal Shovel Ice Officers during this ice season were questioned by U.S. industry representatives and District Nine dpw when Canadian icebreakers were released to assist Algoma ships in/out of Goderich, Nanticoke or Port Colborne when they could have been used more effectively in the St. Clair River. While TACON for Canadian icebreakers is assumed by Operation Coal Shovel, it is important to note that Operation Coal Shovel Ice Officers work closely with Canadian Ice Officers, and there is pressure from Canadian shipping companies (due to their service agreements) for the Canadian Coast Guard to provide icebreaking services to Canadian-flagged ships, as necessary. There is a carefully orchestrated “give and take” that occurs between U.S. and Canadian Ice Officers to accommodate the needs of both countries, and it is important for all involved in the icebreaking mission on the Great Lakes to understand this unique dynamic. It is also this dynamic that makes honoring scheduled Charlie periods and logistics days challenging because we are not directing an all-U.S. fleet of icebreakers.
- b. Technology continues to cause delays in uploading real-time information to Homeport. The new Homeport 2.0 does not allow CG personnel to log into Homeport from a non-Coast Guard workstation. An iPad has helped Operation Coal Shovel Ice Officers obtain and track real-time updates for weather, ice conditions and ship movements when not at home or at the office. However, the iPad has no ability to upload documents via USB and has no capabilities to utilize VDI to log into a Coast Guard server. TISCOM continues to deny all purchases for non-standard laptops with Windows capabilities, which makes documenting all after-hour and weekend activities extremely challenging unless at the office. While both Ice Officers have VDI capabilities, VDI/severs were not available on numerous occasions. Sector Detroit WWM division continues to seek alternatives to increase the technological abilities of Operation Coal Shovel.
- c. Operation Coal Shovel seeks to further leverage resources available through Sector Detroit’s Command Center during the upcoming ice season. Operation Coal Shovel Ice

Officers will continue to work with Sector Detroit's Command Center Chief to institute new initiatives and make improvements where necessary.

- d. The government shutdown prevented NOAA weather products from being properly updated. As a result, tracking and monitoring ice conditions was extremely challenging.
- e. Data collection outcomes/endpoints for icebreaking need to be clearly established/defined and then standard reporting formats (daily, weekly and annual reports) established for Cutters and Operations Taconite and Coal Shovel. Once a standard data collection system is in place, standard policy and training must be provided to Ice Officers and Cutter personnel at the annual Ice Conference or via online webinar(s) or teleconference(s) prior to the 2019-2020 ice season to reinforce understanding, expectations and standardization. Such a data collection system will provide an accurate tool to satisfy Headquarters/LANTAREA/Ninth District data calls during the ice season, reinforce resource requests, and provide support for awards and evaluations.
- f. It is highly recommended that Ninth District dpw staff visit Sector Detroit for two days. Spending one-day riding an icebreaker in the St. Clair River and one-day at Sector Detroit with the Ice Officer would provide a better understanding of the unique challenges faced by Operation Coal Shovel.
- g. CCGS GRIFFON cannot operate in brash ice, specifically in the St. Clair River. This limits the GRIFFON's ability to operate in Lake Erie, which creates logistical issues for tasking. Making matters worse is industry is unaware of this limitation. As a result, numerous questions from industry are received when there is significant ice in the St. Clair River and GRIFFON is sitting at the dock in Amherstburg, ON. Recommend District Nine dpw request different Canadian asset next year that can operate in brash ice.

## **2. Best Practices**

- a. Having two U.S. cutters in Operation Coal Shovel proved to be a very effective way to manage assets and execute the icebreaking mission.
- b. Constant high water levels in the St. Clair River continued again this year, especially in January and February when ice jams were frequently forming between the coastal towns of East China and Algonac, Michigan. Operation Coal Shovel continued engagement with the hydraulic engineers from the U.S. Army Corps of Engineers (USACE) to provide information relative to the effectiveness of breaking North Channel on the St. Clair River for flushing/removing ice jams upriver. Weekly communication with the hydrologist from the USACE proved vital in minimizing flooding in the St. Clair River.

To address high water levels, which are forecasted to remain in the upcoming 2019-2020 ice season, it is highly recommended that local subject matter experts from the USACE again present current and historical water level datum and observations to the general assembly at this year's Ice Conference to ensure all present, including industry, have a

fundamental understanding of water level trends on the Great Lakes System and how they impact the overall icebreaking mission. Even more critical is the USACE also provide a presentation to U.S. and Canadian icebreaker COs on issues/concerns related to breaking North Channel to eliminate the misconception that breaking the North Channel is the easier, more effective method for managing ice buildup in lower St. Clair River. This presentation should become a yearly occurrence at the Ice Conference. The use of two U.S. cutters in Operation Coal Shovel enabled greater coverage keeping flooding at a minimum this year.

- c. Keeping USCGC BRISTOL BAY in Operation Coal Shovel's AOR was effective in allowing the cutter to develop a good working relationship with the Ice Officers and familiarity with the AOR and ships that frequently transit the St. Clair River. Having USCGC BRISTOL BAY being homeported in Detroit also made logistics more efficient similar to USCGC KATMAI BAY in the St. Mary's River.
- d. Android Team Awareness Kit (ATAK) was a very effective way of communicating conditions and pictures between cutters and Ice Officers. It also enabled the Ice Officers to share pictures with industry much more efficiently. Prior to the start of the 2018-2019 ice season, Sector Detroit Ice Officers and Enforcement division provided training to cutters and ice observers on how to use ATAK phones. When a user posts a picture with an ATAK phone, all users are notified and are able to view the picture. This enables U.S. cutters to instantly provide real time ice conditions to other U.S. Cutters as well as Sector Detroit Ice Officers. Users can also draw and post different graphics on a real time map on the phone which proved to be very useful in sharing where the ice edge was with all U.S. cutters. Of note, ATAK phones are only available to U.S. cutters.
- e. The flexibility and support provided by USCGC MORRO BAY at the beginning of the season was commendable. The crew went above and beyond to keep commerce moving when Operation Coal Shovel only had one U.S. cutter.
- f. Operation Coal Shovel Team hosted Canadian Ice Officers at Sector Detroit so they could achieve greater familiarization with our workspaces and ice management practices.
- g. Operation Coal Shovel Ice Officers performed several ride-alongs with U.S. icebreakers to improve working relationships and better understand the issues/obstacles faced by Cutter personnel.
- h. USCGC MORRO BAY, USCGC BRISTOL BAY and USCGC HOLLYHOCK were incredibly accommodating and professional during ride-alongs. The flexibility they operated with in regards to short notice VIP and press visits was commendable. The willingness to host ride-alongs is greatly appreciated by Operation Coal Shovel.
- i. Port Lambton and Marine City cameras were heavily utilized to monitor ice conditions in the St. Clair River, especially during the government shutdown when all NOAA ice products were offline.

- j. A formalized roster and ice observer rotation was implemented utilizing ANT Detroit, Sector Detroit Command Center and Coast Guard Auxiliary personnel. Preseason training was conducted for Ice Observers and Air Station personnel.
- k. Use of the Prevention Department's iPad enabled consolidation of all references and provided portable access to weather and ice forecast websites, as well as Marine Traffic AIS tracking during evening and weekend hours.

**COAL SHOVEL WEEKLY SUMMARY  
WEEKLY SUMMARY  
18 JAN 2019 thru 20 JAN 2019**

Ref: CCGD9INST M16150.2(series)

1. Situation: On January 18, 2019, The Commander of CG Sector Detroit commenced Operation Coal Shovel. No assets were assigned to Sector Detroit Tacon. The two areas of concern were a rapid freeze of ice in the St. Clair River and Western Basin over the weekend with the upcoming Artic Blast. St. Clair River is ice free, Lake St. Clair had 9 tenths new lake ice and Western Lake Erie had 3 tenths new lake ice. No significant ice was reported elsewhere in the Coal Shovel's AOR. Currently all Tier I and II have no significant Ice concerns. District Nine will assign CGC BRISTOL BAY to Sector Detroit Tacon when needed.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
00	Exigent Community Service Requests
20	Icebreaking Assistance Requests
00	U.S. Vessels Directly Assisted
00	CA Vessels Directly Assisted
00	FF (Salties) Directly Assisted
13	Total Transits Assisted
01	Ice Recon Flights
00	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
00	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	72	00	100%
Detroit River	72	00	100%
Pelee Passage	72	00	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
00	Exigent Community Service Requests
00	Icebreaking Assistance Requests
00	U.S. Vessels Directly Assisted
00	CA Vessels Directly Assisted
00	FF (Salties) Directly Assisted
00	Total Transits Assisted
00	Ice Recon Flights
00	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
00	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	72	00	100%
Detroit River	72	00	100%
Pelee Passage	72	00	100%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0	N/A
CGC BRISTOL BAY	0 Hours	0	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0	N/A
CGC BRISTOL BAY	0 Hours	0	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

9. Future Plans: Continue monitoring ice formation.

**COAL SHOVEL WEEKLY SUMMARY  
WEEKLY SUMMARY  
21 JAN 2019 thru 27 JAN 2019**

Ref: CCGD9INST M16150.2 (series)

1. Situation: Extreme cold temperatures caused a rapid overnight freeze over the areas of the St. Clair River and Lake St. Clair causing vessels to be hindered by ice. Rapid freezing and rising water levels made it exceptionally challenging escorting the remaining few US vessels to lay up. The St. Clair river conditions from Algonac to East China had 10/10 brash under pressure. Western Basin in Lake Erie is becoming a concern although vessels are currently not hindered by ice. CGC BRISTOL BAY and CGC MORRO BAY was assigned to the Coal Shovel TACON. CCGS SAMUEL RISLEY and CCGS GIRFFON was assigned to the Coal Shovel area. CCGS Griffon was FMC for the first portion of the week until their crew change on January 23<sup>rd</sup>. After their crew change, they required some maintenance through the weekend. CGC NEAH BAY was assigned to OP Coal Shovel to cover Lake Erie over the weekend while GRIFFON was conducting maintenance.
2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
02	Exigent Community Service Requests
23	Icebreaking Assistance Requests
04	U.S. Vessels Directly Assisted
12	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
27	Total Transits Assisted
00	Ice Recon Flights
168	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
126	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	168	168	100%
Detroit River	168	00	100%
Pelee Passage	168	00	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
02	Exigent Community Service Requests
43	Icebreaking Assistance Requests
04	U.S. Vessels Directly Assisted
12	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
40	Total Transits Assisted
01	Ice Recon Flights
168	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
126	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	240	168	100%
Detroit River	240	00	100%
Pelee Passage	240	00	100%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	24 Hours	0	Fuel Line Failure
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	24 Hours	0	Fuel Line Failure
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

9. Future Plans: Continue monitoring ice formation with onset of second arctic blast.

**COAL SHOVEL WEEKLY SUMMARY**  
**WEEKLY SUMMARY**  
**28 JAN 2019 thru 03 FEB 2019**

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC MORRO BAY, CCGS SAMUEL RISLEY AND CCGS GRIFFON were assigned to Coal Shovel. An arctic blast settled over the region mid-week which caused rapid freezing across the AOR, especially in the St. Clair River. The below average temps allowed the tracks to hold in the St. Clair River reducing flood concerns. CGC MORRO BAY experienced a fuel line casualty Sunday which rendered them NMC until Tuesday afternoon. Wednesday, the wind and ice conditions were not conducive to conducting vessel movements. CGC MORRO BAY hosted Good Morning America, Wednesday and resumed escorts on Thursday. With the upcoming warm temperatures, flooding will be a major concern for us next week.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
00	Exigent Community Service Requests
16	Icebreaking Assistance Requests
01	U.S. Vessels Directly Assisted
06	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
09	Total Transits Assisted
02	Ice Recon Flights
168	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
19	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	168	168	100%
Detroit River	168	00	100%
Pelee Passage	168	168	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
02	Exigent Community Service Requests
59	Icebreaking Assistance Requests
05	U.S. Vessels Directly Assisted
18	CA Vessels Directly Assisted
04	FF (Salties) Directly Assisted
49	Total Transits Assisted
03	Ice Recon Flights
336	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
145	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	408	336	100%
Detroit River	408	00	100%
Pelee Passage	408	168	100%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	48 Hours	24 Hours	Fuel Line Failure
CGC BRISTOL BAY	0 Hours	0	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	24 Hours	N/A
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

9. Future Plans: Continue monitoring ice degradation and flooding with the warmer temperatures.

## COAL SHOVEL WEEKLY SUMMARY

**04 FEB 2019 thru 10 FEB 2019**

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC HOLLYHOCK, CGC MORRO BAY, CCGS SAMUEL RISLEY AND CCGS GRIFFON were assigned to Coal Shovel. CGC HOLLYHOCK spent the week assisting vessels in and out of Goderich, ON. Later in the week, after assisting a vessel in, it was determined that with high winds and freezing spray predicted, CGC HOLLYHOCK would stay on a dock in Goderich until the weather was favorable to escort the vessel out of Goderich. CGC HOLLYHOCK took the opportunity in the port of Goderich for some local outreach providing over 350 tours to the local community. Preparing the tracks for the vessel out of Goderich proved to be beyond the capabilities of a 225 due to the packed in and under pressure ice from the high winds. With the help of CCGS SAMUEL RISLEY, CGC HOLLYHOCK was able to assist the outbound vessel from Goodrich. MORRO BAY tirelessly provided assistance to vessels transiting through the St. Clair System throughout the week. At the end of the week, CGC MORRO BAY escorted two vessels from Detroit to South East Shoal in Lake Erie before returning to homeport and assuming Charlie status. CCGS SAMUEL L RISLEY assisted with escorts in the St. Clair System early in the week and conducted a day of logistics midweek before transiting to Goderich. CCGS Griffon diverted to a request of exigent circumstances for flood relief in Port Maitland, ON in Lake Erie. While enroute, she suffered a casualty (engine room fire). After the fire was extinguished and full system checks were complete, she was found to be fully mission capable and continued with her mission.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
01	Exigent Community Service Requests
25	Icebreaking Assistance Requests
01	U.S. Vessels Directly Assisted
21	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
24	Total Transits Assisted
02	Ice Recon Flights
168	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
126	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	168	168	100%
Detroit River	168	00	100%
Pelee Passage	168	168	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
03	Exigent Community Service Requests
84	Icebreaking Assistance Requests
06	U.S. Vessels Directly Assisted
39	CA Vessels Directly Assisted

06	FF (Salties) Directly Assisted
73	Total Transits Assisted
05	Ice Recon Flights
504	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
271	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	576	504	100%
Detroit River	576	00	100%
Pelee Passage	576	336	100%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	48 Hours	N/A
CGC BRISTOL BAY	0 Hours	0	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	72 Hours	N/A
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	0	N/A

9. Future Plans: Continue monitoring ice formation.

## COAL SHOVEL WEEKLY SUMMARY

11 FEB 2019 thru 17 FEB 2019

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC HOLLYHOCK, CGC NEAH BAY, CGC BRISTOL BAY, CCGS SAMUEL RISLEY AND CCGS GRIFFON were assigned to Coal Shovel. On Monday, CGC BRISTOL BAY suffered a casualty with water in the lube oil system rendering them Not Mission Capable (NMC) until 15 February. No escorts were conducted from Monday to Wednesday due to high wind and shifting ice conditions. On 12 February CGC NEAH BAY conducted a personnel transfer of 04 CGC HOLLYHOCK members off the M/V ALGOMA SAULT while at anchor in the St. Clair River. Thursday, 14 February, both wind and ice conditions improved immensely allowing commercial traffic movements with very little hindrance. On 14 February, the CGC NEAH BAY was chopped to Operation Taconite. CGC NEAH BAY conducted logistics in Detroit and Algonac on Friday and transited to Taconite's AOR on Saturday. Sunday, 17 February, CGC HOLLYHOCK conducted an escort of M/V ALGOMA HANSA down bound from Sarnia. Based on the ice conditions and the conditions from Saturday, it was decided that the M/V HANSA could cross the lake without an I/B escort. CGC HOLLYHOCK concluded the escort and worked an AtoN discrepancy; Lake St. Clair Lighted Buoy 30. M/V ALGOMA HANSA became beset and asked CCGS GRIFFON for assistance. CGC HOLLYHOCK was the first on scene, and freed them from the ice.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
01	Urgent Vessel Response Requests
00	Exigent Community Service Requests
16	Icebreaking Assistance Requests
00	U.S. Vessels Directly Assisted
14	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
15	Total Transits Assisted
02	Ice Recon Flights
168	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
77	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	168	168	100%
Detroit River	168	00	100%
Pelee Passage	168	168	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
01	Urgent Vessel Response Requests
03	Exigent Community Service Requests
100	Icebreaking Assistance Requests
06	U.S. Vessels Directly Assisted
53	CA Vessels Directly Assisted
08	FF (Salties) Directly Assisted
88	Total Transits Assisted

07	Ice Recon Flights
672	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
348	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage
St. Clair River	744	672	100%
Detroit River	744	00	100%
Pelee Passage	744	504	100%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0	N/A
CGC BRISTOL BAY	84 Hours	0	Water in lube oil
CGC HOLLYHOCK	0 Hours	48 Hours	N/A
CGC NEAH BAY	0 Hours	24 Hours	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	72 Hours	N/A
CGC BRISTOL BAY	84 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	48 Hours	N/A
CGC NEAH BAY	0 Hours	24 Hours	N/A

9. Future Plans: Continue monitoring ice formation.

**COAL SHOVEL WEEKLY SUMMARY**  
**18 FEB 2019 thru 24 FEB 2019**

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC HOLLYHOCK, CGC BRISTOL BAY, CCGS SAMUEL RISLEY AND CCGS GRIFFON were assigned to Coal Shovel. Early in the week, harsh conditions in the St. Clair River caused delays and raised water levels resulting in St. Clair County issuing a flood warning. ALGOSCOTIA and LEO A MCARTHUR hoveed to in the ice until flushing operations could be complete. While working in the river, CGC BRISTOL BAY suffered a steering casualty. Cutter DC's worked tirelessly to weld the ram and return the cutter to FMC in less than 24 hours. After completion of flushing operations, CGC HOLLYHOCK, CGC BRISTOL BAY, and CCGS SAMUEL RISLEY were able to resume escorts and clear all traffic. Tracks in the St. Clair River held the rest of the week. Tracks in Lake St. Clair did not hold due to shifting plate. Later in the week, CGC HOLLYHOCK transited to Goderich to ensure the M/V ALGOMA SAULT safely entered and departed Goderich. A high wind warning for Sunday and Monday caused all vessel traffic to remain in port with no movements Sunday.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
01	Exigent Community Service Requests
15	Icebreaking Assistance Requests
00	U.S. Vessels Directly Assisted
12	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
14	Total Transits Assisted
02	Ice Recon Flights
168	Waterways Restrictions (hrs)
24	Waterways Closures (hrs )
53	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	144/168	168	86%
Detroit River	144/168	24	86%
Pelee Passage	144/168	168	86%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
01	Urgent Vessel Response Requests
04	Exigent Community Service Requests
115	Icebreaking Assistance Requests
06	U.S. Vessels Directly Assisted
65	CA Vessels Directly Assisted
10	FF (Salties) Directly Assisted
102	Total Transits Assisted
09	Ice Recon Flights
840	Waterways Restrictions (hrs)
24	Waterways Closures (hrs )

401	Icebreaking Resource Hours
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5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	840/912	840	92%
Detroit River	840/912	72	92%
Pelee Passage	840/912	648	92%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0 Hours	N/A
CGC BRISTOL BAY	22 Hours	24 Hours	Steering Ram weld
CGC HOLLYHOCK	0 Hours	48 Hours	N/A
CGC NEAH BAY	0 Hours	0 Hours	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	72 Hours	N/A
CGC BRISTOL BAY	106 Hours	48 Hours	N/A
CGC HOLLYHOCK	0 Hours	96 Hours	N/A
CGC NEAH BAY	0 Hours	24 Hours	N/A

9. Future Plans: Continue monitoring ice formation.

**COAL SHOVEL WEEKLY SUMMARY  
25 FEB 2019 thru 3 MAR 2019**

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC HOLLYHOCK, CGC BRISTOL BAY, CCGS SAMUEL RISLEY AND CCGS GRIFFON were assigned to Coal Shovel. Wind and ice conditions on Lake St. Clair were not conducive for movements on Monday. Normal traffic movements resumed on Tuesday with the escorts of M/V ALGOSEA, M/V ALGOMA SAULT and M/V ALGONOVA from Sarnia to Detroit. The M/Vs ALGOSEA and ALGONOVA proceeded to Nanticoke with CCGS GRIFFON. CCGS SAMUEL RISLEY assisted the tug LEO A. MACARTHUR w/barge JOHN J. CARRICK from Detroit to Sarnia. On Wednesday, CGC BRISTOL BAY conducted an escort of M/V IVER BRIGHT from Sarnia to Detroit with the DCO on board to observe and CGC HOLLYHOCK escorted M/V ALGOMA SAULT from Detroit to Sarnia for layup. Thursday morning, CGC BRISTOL BAY escorted M/V IVER BRIGHT to Monroe, MI and the M/V ALGOMA HANSA was escorted from Nanticoke to Sarnia with the assistance of the CCGS GRIFFON and SAMUEL RISLEY. Friday morning, the M/V IVER BRIGHT was able to transit from Monroe to Detroit unassisted and proceeded to Sarnia with the assistance of CCGS SAMUEL RISLEY. The other vessel movement for Friday was the tug LEO A. MACARTHUR w/barge JOHN J. CARRICK. CGC HOLLYHOCK stood by at LHC buoys 11 and 12 to assist if necessary. Tug LEO A. MACARTHUR transited from Port Huron to the Taconite AOR, without any assistance. On Saturday CCGS GRIFFON and CCGS SAMUEL RISLEY escorted the M/V ALGONOVA from Nanticoke to Sarnia, ON. Three movements were scheduled for Sunday morning, two cancelled their movements and the M/V ALGOMA INNOVATOR made it to Sarnia without any assistance. Excellent Ice Recon support from AUX Air and AIRSTA Detroit this week made operational planning and overall ice conditions awareness very manageable.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
00	Exigent Community Service Requests
17	Icebreaking Assistance Requests
00	U.S. Vessels Directly Assisted
12	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
14	Total Transits Assisted
04	Ice Recon Flights
168	Waterways Restrictions (hrs)
24	Waterways Closures (hrs )
50	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	144/168	168	86%
Detroit River	144/168	24	86%
Pelee Passage	144/168	168	86%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
01	Urgent Vessel Response Requests

04	Exigent Community Service Requests
132	Icebreaking Assistance Requests
06	U.S. Vessels Directly Assisted
77	CA Vessels Directly Assisted
12	FF (Salties) Directly Assisted
116	Total Transits Assisted
13	Ice Recon Flights
1008	Waterways Restrictions (hrs)
96	Waterways Closures (hrs )
451	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	984/1080	1008	91%
Detroit River	984/1080	96	91%
Pelee Passage	984/1080	816	91%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0 Hours	N/A
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	24 Hours	N/A
CGC NEAH BAY	0 Hours	0 Hours	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	72 Hours	N/A
CGC BRISTOL BAY	106 Hours	72 Hours	N/A
CGC HOLLYHOCK	0 Hours	120 Hours	N/A
CGC NEAH BAY	0 Hours	24 Hours	N/A

9. Future Plans: Continue monitoring ice formation.

## COAL SHOVEL WEEKLY SUMMARY

4 MAR 2019 thru 10 MAR 2019

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC HOLLYHOCK, CGC BRISTOL BAY, CCGS SAMUEL RISLEY AND CCGS GRIFFON were assigned to Coal Shovel. CGC HOLLYHOCK was released from Coal Shovel TACON on Thursday. Early in the week, cold nights resulted in new ice growth, which kept the tracks in the St. Clair River from collapsing. Warmer temperatures during the day caused tracks in Lake St. Clair to become unstable and shifting plates required vessels to be assisted through the Lake. Normal ALGOMA movements though the week, combined with the cold temperatures, resulted in two vessels becoming beset in the Long Point area. Gale force winds at the end of the weekend with South winds prevented movements in or out of Nanticoke due to pressure on the ice. The same south winds, however, made the movement of the Dorothy Pathfinder escorted by the CCGS GRIFFON favorable.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
01	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
00	Exigent Community Service Requests
14	Icebreaking Assistance Requests
02	U.S. Vessels Directly Assisted
07	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
14	Total Transits Assisted
05	Ice Recon Flights
168	Waterways Restrictions (hrs)
0	Waterways Closures (hrs )
38	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	168/168	168	100%
Detroit River	168/168	0	100%
Pelee Passage	168/168	168	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
01	Search and Rescue Response Requests
01	Urgent Vessel Response Requests
04	Exigent Community Service Requests
146	Icebreaking Assistance Requests
08	U.S. Vessels Directly Assisted
84	CA Vessels Directly Assisted
14	FF (Salties) Directly Assisted
130	Total Transits Assisted
18	Ice Recon Flights
1176	Waterways Restrictions (hrs)
96	Waterways Closures (hrs )
489	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	1152/1248	1176	92%
Detroit River	1152/1248	96	92%
Pelee Passage	1152/1248	984	92%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0 Hours	N/A
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	24 Hours	N/A
CGC NEAH BAY	0 Hours	0 Hours	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	72 Hours	N/A
CGC BRISTOL BAY	106 Hours	96 Hours	N/A
CGC HOLLYHOCK	0 Hours	144 Hours	N/A
CGC NEAH BAY	0 Hours	24 Hours	N/A

9. Future Plans: Continue monitoring ice degradation with warming temps. Shifting plate ice in Lake Erie and Lake St. Clair continue to be a problem. Potential ice jams in the St. Clair River from melting ice in Lake Huron are also a concern.

## COAL SHOVEL WEEKLY SUMMARY

11 MAR 2019 thru 17 MAR 2019

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC BRISTOL BAY, CCGS SAMUEL RISLEY AND CCGS GRIFFON were assigned to Coal Shovel. CCGS SAMUEL RISLEY was released from Coal Shovel TACON on Saturday. Warmer temperatures late in the week helped decay the ice rendering the St. Clair River, Detroit River and the Western Basin ice-free. Ice is still present but no longer hindering traffic in Lake St. Clair, Lake Huron, Southeast Shoal and Pelee Passage in Lake Erie. Normal ALGOMA movements were made along with the M/V IVER BRIGHT and tug EVERLAST. All vessel movements through the Detroit River, Lake St. Clair and the St. Clair River were made without icebreaker assistance on Friday and through the weekend. Erie Islands RNA was lifted but the Saginaw Bay RNA is still in effect.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
00	Exigent Community Service Requests
11	Icebreaking Assistance Requests
00	U.S. Vessels Directly Assisted
05	CA Vessels Directly Assisted
02	FF (Salties) Directly Assisted
07	Total Transits Assisted
04	Ice Recon Flights
96	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
80	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	168/168	96	100%
Detroit River	168/168	0	100%
Pelee Passage	168/168	96	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
01	Search and Rescue Response Requests
01	Urgent Vessel Response Requests
04	Exigent Community Service Requests
157	Icebreaking Assistance Requests
08	U.S. Vessels Directly Assisted
89	CA Vessels Directly Assisted
16	FF (Salties) Directly Assisted
137	Total Transits Assisted
22	Ice Recon Flights
1272	Waterways Restrictions (hrs)
96	Waterways Closures (hrs )
569	Icebreaking Resource Hours

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	1320/1416	1272	93%
Detroit River	1320/1416	96	93%
Pelee Passage	1320/1416	1080	93%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0 Hours	N/A
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	00 Hours	N/A
CGC NEAH BAY	0 Hours	0 Hours	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	72 Hours	N/A
CGC BRISTOL BAY	106 Hours	120 Hours	N/A
CGC HOLLYHOCK	0 Hours	144 Hours	N/A
CGC NEAH BAY	0 Hours	24 Hours	N/A

9. Future Plans: Continue monitoring ice degradation with warming temps. Ice in Eastern Lake Erie still remains a concern. Will look to lift the RNA in Saginaw Bay in the coming week.

## COAL SHOVEL WEEKLY SUMMARY

**18 MAR 2019 thru 24 MAR 2019**

Ref: CCGD9INST M16150.2 (series)

1. Situation: CGC BRISTOL BAY AND CCGS GRIFFON were assigned to Coal Shovel. The St. Clair River, Detroit River and Western Basin remained ice free. Ice is still present but no longer hindering traffic in Lake St. Clair, Lake Huron, Southeast Shoal and Pelee Passage in Lake Erie. Vessel movement has begun to increase. All vessel movements through the Detroit River, Lake St. Clair, the St. Clair River and Western Lake Erie were made without icebreaker assistance. Saginaw Bay RNA will be lifted Monday. Heavy ice still remains a problem in Eastern Lake Erie rendering Port Colborne inaccessible. Early in the week CSL requested assistance for a vessel out of Midland and then later deferred (by CSL) to a future date due to the conditions. PIERRE RADISSON suffered a casualty over the weekend delaying their arrival to Eastern Lake Erie. It was decided on Sunday that CGC BRISTOL BAY would transit to Operation Taconite and the Pierre Radisson would remain in Eastern Lake Erie until she was no longer needed there.

2. Weekly Performance Standards:

Qty	Measure of Effectiveness
00	Search and Rescue Response Requests
00	Urgent Vessel Response Requests
00	Exigent Community Service Requests
36	Icebreaking Assistance Requests
00	U.S. Vessels Directly Assisted
00	CA Vessels Directly Assisted
00	FF (Salties) Directly Assisted
36	Total Transits Assisted
03	Ice Recon Flights
00	Waterways Restrictions (hrs)
00	Waterways Closures (hrs )
84	Icebreaking Resource Hours

3. Weekly Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	168/168	0	100%
Detroit River	168/168	0	100%
Pelee Passage	168/168	0	100%

4. Seasonal Performance Standards

Qty	Measure of Effectiveness
01	Search and Rescue Response Requests
01	Urgent Vessel Response Requests
04	Exigent Community Service Requests
193	Icebreaking Assistance Requests
08	U.S. Vessels Directly Assisted
89	CA Vessels Directly Assisted
16	FF (Salties) Directly Assisted
173	Total Transits Assisted
25	Ice Recon Flights
1272	Waterways Restrictions (hrs)
96	Waterways Closures (hrs )
653	Icebreaking Resource Hours

ENCLOSURE 2

5. Seasonal Tier One Waterway Availability:

Waterway	Hours (open / total)	Hours Hindered	Percentage Open
St. Clair River	1488/1584	1272	94%
Detroit River	1488/1584	96	94%
Pelee Passage	1488/1584	1080	94%

6. Waterway Status:

Waterway	Status
Coal Shovel AOR	Open

7. Weekly Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	0 Hours	0 Hours	N/A
CGC BRISTOL BAY	0 Hours	24 Hours	N/A
CGC HOLLYHOCK	0 Hours	0 Hours	N/A
CGC NEAH BAY	0 Hours	0 Hours	N/A

8. Seasonal Lost Cutter Hours:

Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
CGC MORRO BAY	72 Hours	72 Hours	N/A
CGC BRISTOL BAY	106 Hours	144 Hours	N/A
CGC HOLLYHOCK	0 Hours	144 Hours	N/A
CGC NEAH BAY	0 Hours	24 Hours	N/A

9. Future Plans: Continue monitoring ice degradation in Eastern Lake Erie with the arrival of Pierre Radisson and work with our Canadian partners if assistance is required in Buffalo, NY or Erie, PA.



16155  
17 May 2019

## MEMORANDUM

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From: N. M. Monacelli, LCDR 82523  
CGC HOLLYHOCK (WLB 214)

To: CG Sector Detroit

Subj: OPERATION COAL SHOVEL AFTER ACTION REPORT, 2019

### 1. Summary of Operations:

a. HOLLYHOCK shifted TACON to OPERATION COAL SHOVEL on 4 February 2019, operating until shifting TACON to OPERATION TACONITE on 14 March 2019. During this operational period, the cutter was away from homeport for 21 out of 39 days working in Lake Huron, the St. Clair River, and Lake St. Clair.

b. In total, HOLLYHOCK provided 162.5 hours of ice breaking support to OPERATION COAL SHOVEL, supporting 17 vessel transits and providing Direct Assistance to 7 vessels.

### 2. Operations:

a. Lake Huron: HOLLYHOCK conducted ice breaking operations between the entrance of the St. Clair River and Goderich, ON. Ice in and around the bottom of the cut held fast to the shore for the majority of the time HOLLYHOCK operated in the area. Once past the Lake Huron Cut (LHC) Buoys 11 and 12, waters typically opened up until approximately 4 NM from the entrance to Goderich, ON. The ice bridge in the vicinity of LHC 1 and 2 formed and dissipated as the season progressed. Passage through the LHC occasionally required ice breaker escort to prevent the ice bridge from collapsing. The ice on the Goderich approach made for the most challenging operations as weather and lake conditions would shift ice fields on a daily basis, requiring frequent track re-establishment. On one occasion, the wind shifted hard out of the west and packed the ice into the outer break walls. The resultant conditions required further assistance from the Canadian Coast Guard ice breaker SAMUEL RISLEY. The ice became particularly challenging on the last few hundred yards from the entrance to the Port of Goderich, ON. Operations were fairly straight-forward regarding navigation and track establishment. Despite occasional significant windrows, the approach remained straight track from charted LCAs into the harbor, playing into the strengths of WLB capabilities. Working in the vicinity of Goderich also afforded the possibility for assistance from the Harbor Master tug in broadening ice pools or clearing the Harbor.

b. St. Clair River: The majority of ice breaking in the St. Clair River was in the vicinity of Algonac south to the St. Clair Flats. Ice here could be stacked several feet deep covered in a layer of powdered snow. Breaking in such conditions proved extremely slow and challenging. However, once broken, the track typically held well. Once outside of the Algonac region, ice conditions tapered off into continually less thick and challenging plate or brash ice. This could be seen on both the up and down bound transits through Lake St. Clair, and North towards the Recors Coal Dock. The remainder of the river, North towards Port Huron, saw little to no

ENCLOSURE 3

significant ice conditions which could hinder traffic. Ice plates and brash ice flowed easily down river throughout the season.

3. Engineering:

a. N/A

4. Commercial Ice Breaking: Not applicable. Conducted no operations with commercial ice breakers.

5. Effects on Other Missions: Not applicable. No other missions while assigned to OPERATION COAL SHOVEL.

6. Public Affairs: HOLLYHOCK opened her brow to the community of Goderich, ON and saw a very large turnout for public tours. Many of the crew assisted in delivering tours to 362 people as well as a visit from the The Port Huron Time-Herald.

7. Recommendations/ Comments:

a. Working in the COAL SHOVEL AOR is a fantastic introduction for the novice ice breaking operator. Building pre-need relationships in December 2018 proved invaluable by the time ice operations rolled around. As with any operation, it is critical to look back and see how something excellent can grow. To that end, I offer the following recommendations:

(1) Assets should not be permitted to conduct operations until completing an in-person inchoop brief. Although much remains the same, each year's players, priorities, and tactics evolve. The in-person inchoop brief is common place for units in other Districts, with potential to benefit operations here in District 9. The brief presents an opportunity for command cadre to interact, build a shared mental model of operations, and maximize the ability for tactical commanders to align with their assigned assets. With assets operating in or near the tactical commander's physical location, combined with HOLLYHOCK's geographic proximity to Sector Detroit, hurdles to facilitating the inchoop brief are low. On multiple occasions, during the course of operations, HOLLYHOCK had to reach back for clarification on issues that otherwise are normally addressed at routine inchoop briefings.

(2) Doctrine should be doctrine-ized. As a commanding officer, I rely heavily on published doctrine to guide and facilitate operations; it represents the agreement between the operational commander and the tactical commander on how to deploy the asset. Although current doctrine is available, it became readily apparent that some requirements are not enforced, while other, non-published requirements, are. Inconsistencies can be noted at each level of operations, some more impactful than others. My staff and I are standing by to assist in any capacity to review and update current doctrine. Of most immediate impact to the asset, readiness standards must be more clearly defined. Without a defined standard, I cannot ensure that the unit is ready to meet mission requirements.

(3) Please continue publishing anticipated AOR traffic outlooks. Once we had access to that information, anticipating operations and contingency plans to re-direct became significantly easier. Having the same visibility as the waterways managers enabled better, more meaningful communications with other assets and TACON. Specifically, it enabled us to have transit times, ice conditions vs. capabilities assessments, logistics requirements, and other operational planning

factors in place. As such, we could more quickly deploy and respond, a necessity given the operational tempo.

(4) Sector Detroit should have an in person presence at the Regional Operational Center (ROC). With someone in the room when for the ROC decision making process, differences in U.S. – Canadian mission priorities and asset utilization could be minimized. On several occasions, it appeared that ice officers were caught in a no-win scenario between what an asset could accomplish and the mission requirements of the ROC, resulting in the re-deployment of a Canadian asset or underemployment of a US asset.

b. As a career WLB sailor, but not a career ice breaking sailor, I was able to quickly identify the strengths and weaknesses of the platform when operating in COAL SHOVEL. I note the following strengths:

(1) Endurance- WLBs can sustain themselves for substantially longer than WTGBs, making them an ideal asset for longer transits into Lake Huron and Lake Erie portions of the AOR.

(2) Seaworthiness- Specifically regarding open Lake transits (including Lake St. Clair), the WLB is more capable than WTGBs. Conditions that prove dangerous for the WTGB are easily navigated by the WLB, enabling an emergent response asset that otherwise would not be available.

c. The following weaknesses of the WLB remain a challenge in the COAL SHOVEL AOR:

(1) The WLB requires a minimum of 300 yards lateral distance to come about in ice conditions. This presents a challenge from Algonac to X32, where conditions often prevented HOLLYHOCK from coming about. Similarly, between X32 and the entrance to the Detroit River, there are few opportunities for the WLB to come about in heavy ice coverage. Operationally, this meant that passing Algonac going South of X32 going North translated to a 2-3 hour one way trip. Single asset escorts assignments along this corridor must consider this limitation.

(2) Heavy ice accumulation following sustained westerly winds to the approaches of Goderich, ON prove beyond the icebreaking capability of the WLB, and approaches the limits of much more capable Canadian assets. Approaching the harbor from the open Lake after a westerly wind enables a safe breakout. However, breaking out the harbor from within after westerly winds is not advised. If such winds are forecasted, and there is an operational requirement for WLB presence in the harbor, there significant risk for requiring assistance from another asset in breaking out the harbor.

d. Ms. Girard and BOSN Harward were consummate professionals for the duration of our time in the AOR. Their diligence and competence directly enabled operational success. HOLLYHOCK prototyped novel tactics, such as during operations in Goderich, ON and prepositioning in St. Clair, Michigan.

e. I recommend continuing to base COAL SHOVEL operations for HOLLYHOCK in Port Huron, representing close to a geographic center point between operational areas in Lake Huron and Lake St. Clair. Logistics are easy to arrange and response times, ideal, within the entire AOR, both for ice and SAR standby coverage.

Subj: OPERATION COAL SHOVEL AFTER ACTION REPORT,  
2019

16155  
17 May 2019

f. I look forward to OPERATION COAL SHOVEL in the future, and hope to provide constructive feedback to ensure that any commanding officer can succeed in meeting mission requirements.

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CGC MACKINAW  
CGC NEAH BAY  
CGC MOBILE BAY  
CGC BRISTOL BAY  
CGC ALDER  
CGC MORRO BAY  
CGC KATMAI BAY  
CGC BISCAYNE BAY

U.S. Department of  
Homeland Security

United States  
Coast Guard



Commanding Officer  
USCGC NEAH BAY (WTGB 105)

1055 E Ninth Street  
Cleveland, OH 44114-1092  
Phone: 216-701-8390  
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16155  
8 May 2019

## MEMORANDUM

PERODEAU.ANDREW.P.1013  
794088

Digitally signed by  
PERODEAU.ANDREW.P.1013.794088  
Date: 2019.05.08 15:35:33 -0400

From: A. P. Perodeau, LCDR  
CGC NEAH BAY (WTGB 105)

To: CG Sector Detroit

Subj: OPERATION COAL SHOVEL AFTER ACTION REPORT 2019

### 1. Summary of Operations:

- a. NEAH BAY shifted TACON to Op Coal Shovel on 11 February 2019 and was released from Op Coal Shovel on 16 February 2019.
- b. Of the 6 total days that the NEAH BAY crew was assigned to Op Coal Shovel, we were in an operational (Bravo-12 or higher) status for all 6 days and spent no days in Charlie. Of the 6 operational days, the NEAH BAY crew was away from homeport for 6 days working in the Western Basin and the Detroit/St Clair River system.
- c. In total, NEAH BAY provided 38 hours of icebreaking support to Op Coal Shovel, all of which was preventative icebreaking.

### 2. Operations:

- a. 11 Feb – 16 Feb: We shifted TACON to Sector Detroit at on 11 Feb and were underway at 0800 supporting operations. Due to the warmer January temperatures and slow onset of ice, very limited support was required from us for the operation. On two days, vessel escorts across Lake St Clair were required due to high winds, but otherwise, we mainly served as a ready assist vessel to be called if needed.
3. Engineering: We were fortunate this year and had no casualties to our engineering plant during Operation Coal Shovel.
  4. Commercial Icebreaking: Not applicable. Conducted no operations with commercial icebreakers.
  5. Effects on Other Missions: No other missions were assigned during this domestic icebreaking season.
  6. Public Affairs: Not applicable. We did not conduct any public affairs while assigned to the operation.

ENCLOSURE 4

Subj: OPERATION COAL SHOVEL AFTER ACTION REPORT,  
2019

16155  
8 May 2019

7. Recommendations/Comments: I have no concerns about the operation this year, but I will keep two of my previous year comments in the AAR as I believe they are best practice.

a. Rotate Ship Locations – Although seemingly minor, the ability to operate in a new/different area helps manage crew fatigue and complacency. Rotating the WLE cutter and the SE Bend cutter every week or so would help with this.

b. Institute a Morning Cutter Call – Operation Taconite does this to great effect. Each of the units underway, including the Canadian assets call in at 0730. The call lasts approximately 15 minutes. In the call, we get intended vessel movement, asset locations, and tasking. Even if the picture changes throughout the day, it starts everyone off on the same page.

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CGC MACKINAW