



16150  
30 June 2021

## MEMORANDUM

From: K. D. Floyd, CAPT  
CGD Nine (dp)

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

Subj: 2020-2021 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)  
(c) Ninth District Domestic Icebreaking Policy and Procedures, D9INST M16150.2 (series)

1. Per references (a-c), the Ninth District's annual domestic ice operations commenced 21 December 2020 and concluded on 26 March 2021.

### 2. Narrative Summary:

a. Sector Sault Ste Marie commenced Operation Taconite on 21 December 2020. During the 95 days of icebreaking operations, the eight USCG cutters assigned to the operation spent a total of 2,068 hours of icebreaking to assist 109 commercial vessels transits; 19 of these transits required direct icebreaking assistance, which supported the movement of 2.1 million tons of cargo valued at approximately \$75 million. Operation Taconite secured on 26 March 2021 (Enclosure 1).

b. Sector Detroit commenced Operation Coal Shovel on 02 February 2021. During the 40 days of icebreaking, six USCG cutters conducted a combined total of 527 icebreaking hours to assist 105 vessel transits carrying an estimated \$74 million of cargo. Operation Coal Shovel secured on 14 March 2021 (Enclosure 2).

c. In total, the eight USCG cutters expended 2,292 resource hours in support of Ninth District icebreaking operations. The 10-year average is approximately 5,000 resource hours annually. USCG cutters provided an additional 113 hours of assistance in Canadian waters. Canadian Coast Guard (CCG) ships provided 8 hours of icebreaking assistance in US waters this season.

d. The Ninth District and Canadian Coast Guard co-hosted a completely virtual Great Lakes Icebreaking Conference in October 2020, along with our maritime industry partners, laying the groundwork for a successful ice season and covering vital lessons learned from the previous year.

e. 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. Due to light ice conditions, calls were temporarily suspended until the ice was deemed a navigational concern.

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

a. The National Oceanographic and Atmospheric Administration (NOAA) classified the 2020-2021 ice season as “below average,” with input provided by the Great Lakes Environmental Research Laboratory (GLERL). Both overall ice coverage and thickness were well below normal conditions. Great Lakes percentage of ice cover peaked at 45.8% on 19 February 2021. Enclosure (1) contains additional charts contrasting weekly and total accumulated ice coverage to the historical median.

b. The period of icebreaking operations was shorter than in an average winter. Freezing temperatures in early December called for a normal start of the icebreaking season, but they would not continue long enough to generate any significant ice growth. A cooling trend occurred briefly in early February that led to peak ice coverage on 19 February. These conditions would not persist and above average temperatures in March brought the end of operations weeks earlier than typically expected.

c. The following summarizes maximum ice conditions observed in key locations:

- (1) Eastern Lake Erie: No significant ice conditions
- (2) Western Lake Erie/Maumee Bay: 6-12” plate ice
- (3) Lake St. Clair/St. Clair River: 2-6” plate ice
- (4) Lake Huron: No significant ice conditions
- (5) Georgian Bay: 12-18” plate ice
- (6) Straits of Mackinac: 12-18” plate ice with 1-3’ windrows
- (7) Whitefish Bay: 12-18” plate ice
- (8) St. Mary’s River: 12-18”
- (9) Western Lake Superior: 12-18” plate ice
- (10) Duluth-Superior: 12-18” plate ice
- (11) Thunder Bay: 12-18” plate ice
- (12) Green Bay (North): 18-24” plate ice

(13) Green Bay (South): 12-18" plate ice

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

- a. Operation Taconite: Estimated at \$75 million, 2.1 million tons of dry bulk (iron ore, coal, salt, stone, cement) and liquid (gasoline, diesel, heating oil) cargo.
- b. Operation Coal Shovel: Estimated at \$74 million, 2 million tons of cargo.
- c. The Lake Carriers Association (LCA) published monthly shipping data for the 2020-2021 ice season and reported a 22.9% decrease in cargo in December from the previous year. This number was also 21% below the five-year average. In January of 2021, iron ore shipments were up 43.5% from 2020 and 31.7% ahead of their five-year average.

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

- a. 97.7% of Domestic Icebreaking requests met.
  - (1) 176 ice breaking service requests made.
  - (2) 4 requests declined.
    - a. 25 December 2020: Sector Sault Ste. Marie received a request from Key Lakes-Great Lakes Fleet for escort assistance upon M/V JOHN G MUNSON's arrival to the Port of Duluth, which they declined, citing the commercial assistance policy as rationale. CGC BISCAYNE BAY, positioned in Duluth since 21 December, reported ice conditions did not warrant direct escort assistance. Local commercial icebreaking providers signaled their availability and the vessel arrived, loaded, and departed without ice related delays.
    - b. 29 December 2020: Sector Sault Ste. Marie received a request from Key Lakes-Great Lakes Fleet for escort assistance upon M/V JOHN G MUNSON's arrival to the Port of Duluth, which they declined, citing the commercial assistance policy as rationale. CGC ALDER visited tracks throughout the twin ports on December 29, reporting that conditions did not warrant direct escort assistance. Local commercial icebreaking providers signaled their availability and the vessel arrived, loaded, and departed without ice related delays.
    - c. 03 January 2021: A Pilot with the Western Great Lakes Pilots Association-Region 3 requested the U.S. Coast Guard provide escort assistance to the Tug NEW YORK and asphalt barge DOUBLE HULL. The pilot wanted an escort ahead of the vessel's 04 January departure from the Port of Green Bay. Sector Sault Ste. Marie declined to provide the requested assistance, citing the commercial assistance policy as rationale. CCG MOBILE BAY reported conditions did not warrant direct escort assistance. Local commercial icebreaking providers signaled their availability and

the vessel elected to sail without contracting commercial icebreaking support. Ice did not hinder the vessel's departure.

d. 20 January 2021: US Oil (Green Bay) sought to load Tug MICHIGAN/GREAT LAKES before 30 January. Due to the increase in ice thickness, percentage of coverage and the rise of recreational ice use, Sector Sault Ste. Marie declined the request citing risk to public safety as rationale and offered to facilitate a delivery before 27 January. Unable to do so, US Oil withdrew their request.

b. Icebreaking Asset Availability:

- (1) 2,595 total icebreaking operation hours.
- (2) 7,056 scheduled Charlie hours.
- (3) 372 unscheduled Charlie hours; 37% attributed to COVID-19 safety.

c. The fleet remained relatively healthy this season despite COVID-19 cases onboard causing more than a third of lost cutter support hours. Resource availability was maximized by the return of CGC BISCAYNE BAY from the Coast Guard Yard in Baltimore, Maryland and completion of the WTGB Service Life Extension Project (SLEP).

d. The Great Lakes fleet experienced 192 lost cutter hours due to the following casualties:

- (1) MOBILE BAY: MDE; 4 hours
- (2) KATMAI BAY: Anchor Windlass, Jacket water leak, #1 MDE; 173 hours
- (3) MACKINAW: Port Pod control; 12 hours
- (4) MORRO BAY: Propulsion generator; 3 hours

e. The Great Lakes fleet experienced 236 hours of non-mechanical delays:

- (1) BISCAYNE BAY: Medical concerns (COVID-19)/Fuel order delay; 108 hours
- (2) NEAH BAY: Medical concerns (COVID-19); 72 hours
- (3) BRISTOL BAY: Fuel order delay; 20 hours
- (4) MORRO BAY: Fuel order delay; 8 hours
- (5) KATMAI BAY: Fuel order delay; 8 hours

**6. Performance Measures:**

- a. Search and Rescue Response Requests: 1 case (MISLE case 1253158)
- b. Urgent Vessel Response Requests: 1
- c. Exigent Community Service Requests: 1 case (MISLE case 7152062)
- d. Vessel Direct Assists: 69 (18 US, 43 Canadian, 8 foreign flagged)
- e. Icebreaking Service Requests: 176
- f. Tier 1 Waterways were open 99% of the ice season (7,436 of 7,520 total hours).

Waterway	Potential Availability	Actual Availability	Percentage Available
Straits of Mackinac	2,284 hours	2,284 hours	100%
St. Mary's River	2,284 hours	2,284 hours	100%
St. Clair River	984 hours	900 hours	91%
Detroit River	984 hours	984 hours	100%
Pelee Passage	984 hours	984 hours	100%
	7,520 hours	7,436 hours	99%

- g. Tier 2 Waterways were open 99% of the ice season (6,200 of 6,200 total hours).

Waterway	Potential Availability	Actual Availability	Percentage Available
Whitefish Bay	2,284 hours	2,284 hours	100%
Green Bay	2,284 hours	2,284 hours	100%
Saginaw Bay	816 hours	816 hours	100%
Maumee River	816 hours	816 hours	100%
	6,200 hours	6,200 hours	100%

- (1) Enclosures (1) and (2) list waterway restrictions and closures.

**7. Statistical Summary:** The Statistical Data Summary for Operations Taconite and Coal Shovel 2020-2021 are included as Enclosures (1) and (2), respectively.

**8. Night Operations:** U.S. Coast Guard Cutters assigned to Operation Taconite conducted 2 hours of icebreaking at night.

**9. Future Plans and Recommendations:**

- a. In December 2020, the Ninth District published updated Domestic Icebreaking Policy and Procedures guidance, including expanded metrics and data collection requirements included in this report. Following this “below average” season, District staff will continue to collaborate with Sector Ice Officers and cutter personnel to refine our processes and improve our reporting products.
- b. CGC ALDER will transit to the CG YARD for Major Maintenance Availability (MMA) this summer, with CGC SPAR arriving as permanent replacement in spring of 2022. With no asset based in Lake Superior next winter, additional cutter support from the lower Lakes may be required when the locks are open.
- c. Recommend that SFLC-IBCT continue to actively pursue strategies to minimize delay in delivery of parts, supplies, and services to cutters that are not mission capable. With the end of SLEP, this is imperative for the aging WTGBs. This year, the longest period of unscheduled asset maintenance was for CGC KATMAI BAY, which lost 173 op hours due to various casualties to the propulsion plant and anchor windlass that required contractor support.
- d. The Ninth District will host the 2021 Great Lakes Icebreaking Conference this fall. District staff will explore virtual options to maximize participation by those unable to travel to an in-person event.

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Enclosures: (1) 2020-2021 Operation TACONITE End of Season Ice Report  
(2) 2020-2021 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 E. Water Street  
Sault Sainte Marie, MI 49783  
Staff Symbol: (s)  
Phone: (906) 635-3299

16150  
17 May 2021

## MEMORANDUM

From:  CAPT  
A. R. Jones, 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) Ninth District DOMICE Policy and Procedures, D9INST M16150.2C

1. During the 2021 domestic ice-breaking season, the eight U.S. Coast Guard cutters assigned to Operation Taconite spent a total of 2,068 hours in the ice and assisted 109 commercial vessel transits. Of these transits, 19 (5 US, 14 CA) required direct icebreaker assistance to complete their intended movements.

2. Operation Taconite commenced on 21 December 2020 and ended on 26 March 2021. Maritime industry stakeholders estimate 2.1 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 2021 winter navigation season. These cargoes, valued at more than \$75 million, provided critical industrial production, power generation, and public safety capability for the Great Lakes region during the 95 day operational period. Within the Operation Taconite area of responsibility (AOR), U.S. Coast Guard cutters conducted 113 hours of ice breaking activity in Canadian waters. No Canadian Coast Guard icebreaking activity occurred in U.S. waters.

3. The National Oceanographic Atmospheric Administration (NOAA), with input provided by the Great Lakes Environmental Research Laboratory (GLERL), classified the 2021 ice season as "below average." An analysis of the 2021 winter weather and ice thickness measurements appears in enclosure 1. Enclosure 2 contains the performance measures and statistical data required by references (a) and (b).

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.

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Enclosures: (1) Weather Analysis and Ice Thickness Measurements  
(2) 2021 Operation Taconite Statistics

Copy: CG-5PW / CG-NAV-2 / CG-WWM-3

Subj: OPERATION TACONITE END OF SEASON REPORT

16150

17 May 2021

CG SECTOR Lake Michigan  
CG AIRSTA Traverse City  
CGD9 Cutters

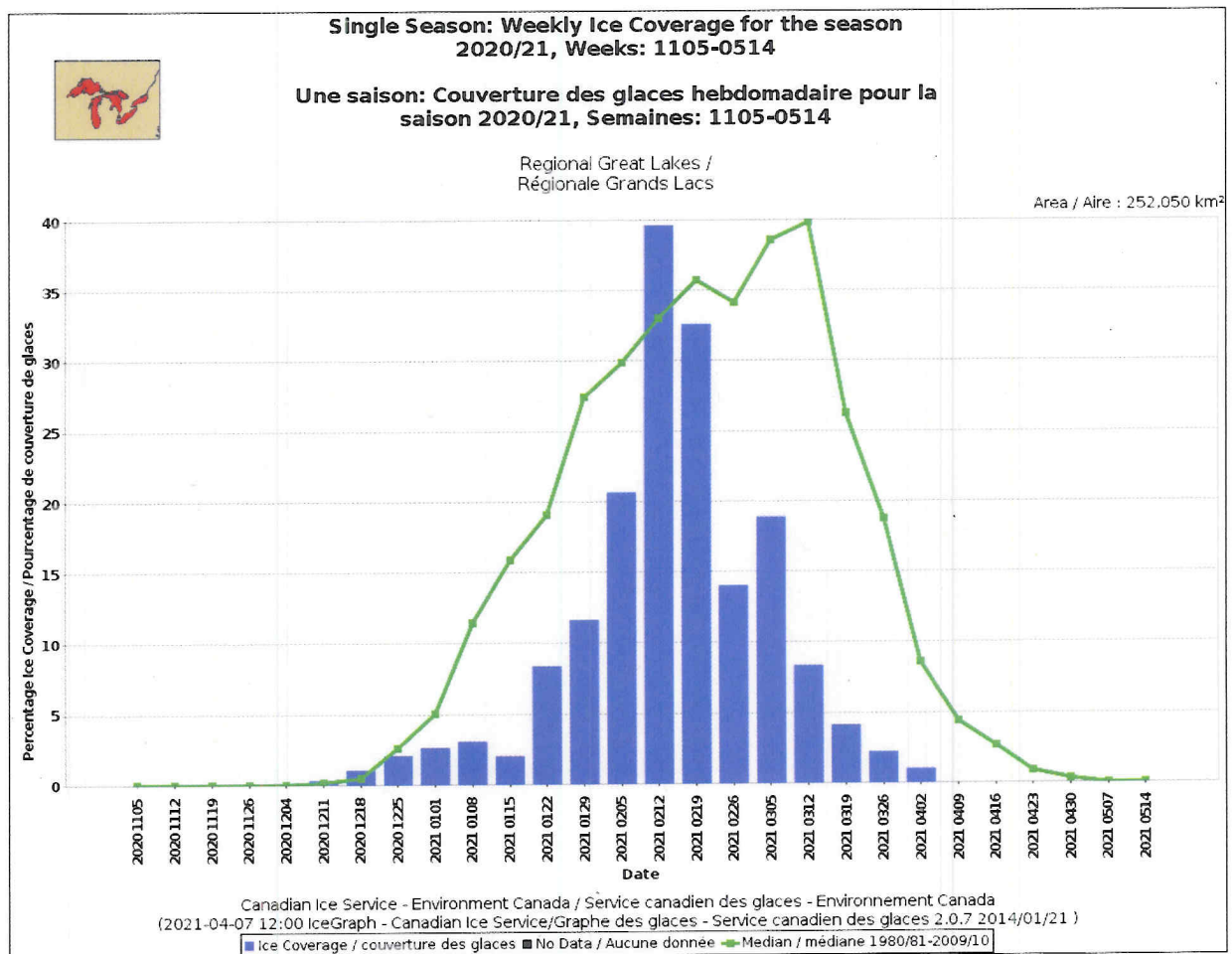


### Weather Analysis and Ice Thickness Measurements:

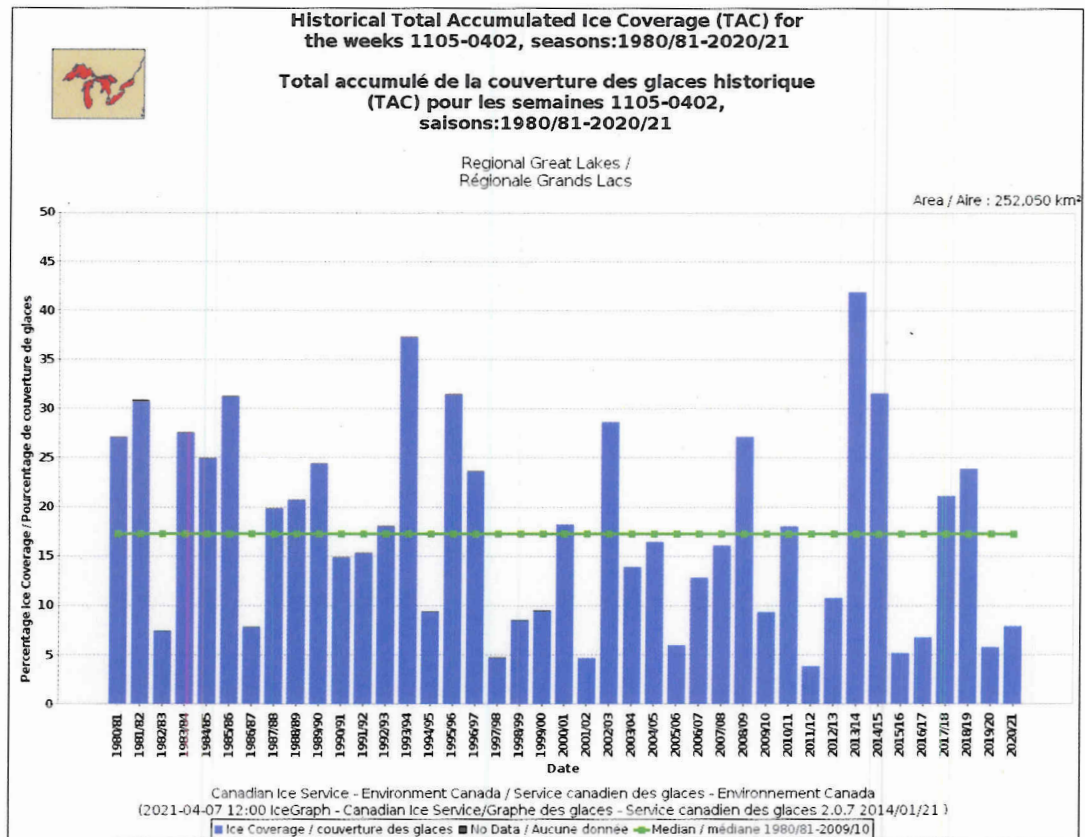
The National Oceanographic Atmospheric Administration (NOAA), with input provided by the Great Lakes Environmental Research Laboratory (GLERL), classified the 2021 ice season as “below average”. Great Lakes percentage of ice cover peaked at 45.8% on February 19, 2021. Although the nearly 46% was above average for the time period, seasonal ice coverage and ice thicknesses were well below historical norms.

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

- Thunder Bay: 12-18” plate ice.
- Duluth-Superior: 12-18” plate ice.
- Whitefish Bay: 12-18” plate ice.
- St. Marys River: 12-18” plate ice.
- Straits of Mackinac: 12-18” plate ice with 1-3’ windrows at the western ice edge.
- Green Bay (North): 18-24” plate.
- Green Bay (South): 12-18” plate ice.



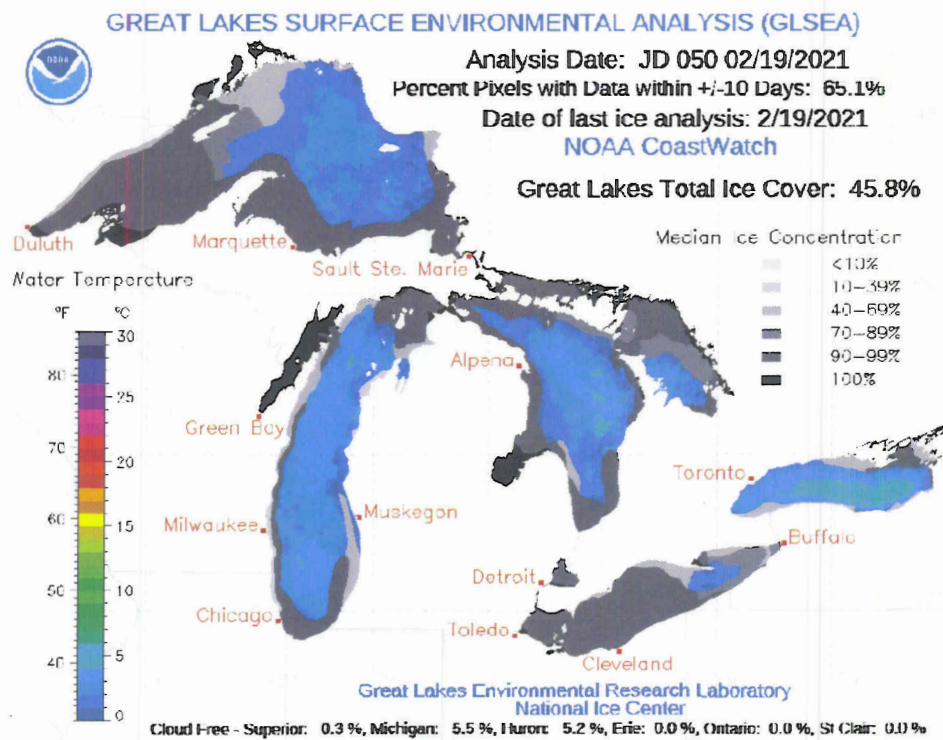
**Single Season: Weekly Ice Coverage  
Compared to the Median (1981-2010)**  
Chart produced by the Canadian Ice Service



**Great Lakes Total Accumulated Ice Coverage 1980-2020**

**Compared to the Median (1981-2010)**

**Chart produced by the Canadian Ice Service**



**2021 Great Lakes Total Ice Cover**

**Chart produced by NOAA/GLERL**





## Sector Sault Sainte Marie Operation Taconite 2021 Statistics

### Performance Measures:

- A. **Search and Rescue (SAR) Response Requests:** One occurrence (MISLE 1253158). On 15 March 2021, Sector Lake Michigan coordinated the evacuation of 16 persons from an ice floe in Green Bay near Sturgeon Bay, WI.
- B. **Urgent Vessel Assistance Requests:** None.
- C. **Exigent Community Service Requests:** One occurrence (MISLE 7152062). On 5 March 2021 Sector Sault Sainte Marie, working with Sector Lake Michigan and CGC MACKINAW, responded to a request for assistance from Wisconsin Electric Cooperative on behalf of the residents of Washington Island, WI.
- D. **Icebreaking Service Requests:** VTS St. Marys River (VTS SMR) received 100 requests for icebreaking assistance. Four of these requests were denied, as described below:
  - 1. 25 December 2020: Key Lakes-Great Lakes Fleet requested US Coast Guard provide escort assistance for the M/V JOHN G MUNSON scheduled to arrive the Port of Duluth the afternoon of 25 December. Sector Sault Ste. Marie declined to provide the requested assistance, citing the commercial assistance policy as rationale. CGC BISCAYNE BAY, positioned in Duluth since 21 December, reported ice conditions did not warrant direct escort assistance. Local commercial icebreaking providers (Great Lakes Towing and Heritage Marine) signaled their availability for the icebreaking work. The vessel arrived, loaded, and then departed without ice related delays.
  - 2. 29 December 2020: Key Lakes-Great Lakes Fleet requested US Coast Guard provide escort assistance for the M/V GREAT REPUBLIC scheduled to arrive 30 December to the Port of Duluth. Sector Sault Ste. Marie declined to provide the requested assistance, citing the commercial assistance policy as rationale. CGC ALDER visited tracks throughout the twin ports on 29 December. The cutter reported conditions did not warrant direct escort assistance. Local commercial icebreaking providers (Great Lakes Towing and Heritage Marine) signaled their availability to perform the requested icebreaking work. The vessel arrived, loaded and then departed without ice related delays.
  - 3. 03 January 2021: A Pilot with the Western Great Lakes Pilots Association-Region 3 requested the U.S. Coast Guard to provide escort assistance for the Tug NEW YORK and asphalt barge DOUBLE HULL. The Pilot wanted an escort ahead of the vessel's 04 January departure from the Port of Green Bay. Sector Sault Ste. Marie declined to provide the requested assistance, citing the commercial assistance policy as rationale. CGC MOBILE BAY reported conditions did not warrant direct escort assistance. Local commercial icebreaking providers (Great Lakes Towing and Sarter Marine Towing) signaled their availability to perform the requested icebreaking work. The vessel elected to sail without contracting commercial icebreaking support. Ice did not hinder the vessels departure from Green Bay.



4. 20 January 2021: US Oil (Green Bay) sought to load MICHIGAN/GREAT LAKES before 30 January. Due to the increase in ice thickness, percentage of coverage and the rise of recreational ice use, Sector Sault Ste. Marie declined US Oils request citing the risk to public safety as rationale. Sector Sault Ste. Marie offered to facilitate a delivery before 27 January. Unable to do so, US Oil withdrew their request.
- E. **Vessel Transits Assisted:** Op Taconite resources assisted 109 vessel transits. Of the total transits assisted, 19 vessels (5 U.S. 14 CA) required direct ice breaking assistance to complete their intended movements.
- F. **Waterway Restrictions:** None.
- G. **Waterway Closures:** None.
- H. **Tier 1 Waterway Availability:** 100% of 2,284 total possible hours for both the Straits of Mackinac and St. Marys River (SMR).
  1. **Extended Navigation Season** – 100% of 660 hours for both the Straits and SMR.
  2. **Winter Navigation Season** – 100% of 1176 hours for both the Straits and SMR.
  3. **Spring Breakout** – 100% of 448 hours for both the Straits and SMR.
- I. **Tier 2 Waterway Availability:** 100% of 2,284 total possible hours for both Whitefish Bay and Green Bay.
  1. **Extended Navigation Season** – 100% of 660 hours for both Whitefish Bay and Green Bay.
  2. **Winter Navigation Season** – 100% of 1176 hours for both Whitefish Bay and Green Bay.
  3. **Spring Breakout** – 100% of 448 hours for both Whitefish Bay and Green Bay.
- J. **Planned Waterway Closures:** Per 33 CFR parts 162.117 and 165.901, the following waterways were closed or restricted by the Captain of the Port or Vessel Traffic Service:
  1. **Grays Reef Passage** – 19 January 2021 to 24 March 2021 (64 Days)
  2. **South Channel** – 28 January 2021 to 9 March 2021 (40 Days)
  3. **West Neebish Channel** – 19 January 2021 to 23 March 2021 (63 Days)
  4. **Pipe Island Passage** – 19 January 2021 to 11 March 2021 (51 Days)
  5. **Southern Green Bay** – 24 January 2021 to 16 March 2021 (51 Days)
  6. **Mackinac Island and St Ignace** – 11 February 2021 to 7 March 2021 (24 Days)
  - 7.

### Statistical Summary:

A. **Aerial Support:** Thirteen sorties provided by the US Coast Guard Auxiliary

B. **Cutter Employment:**

#### Area 4A (Lake Huron / Georgian Bay / North Channel) – 062 Hrs of Cutter Support

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	00	025	000	00	00	008	00	00	00
Katmai Bay	05	023	001	00	00	000	00	00	00
<b>Totals</b>	<b>05</b>	<b>048</b>	<b>001</b>	<b>00</b>	<b>00</b>	<b>008</b>	<b>00</b>	<b>01</b>	<b>00</b>





**Area 4B (Lake Huron / Alpena / Cheboygan) - No Cutter Activity**

**Area 5A (Straits of Mackinac) - 705 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	005/021/016/00/00/097						01	02	00
Hollyhock	000/015/017/00/00/034						00	00	00
Biscayne Bay	001/037/034/01/00/065						01	00	00
Katmai Bay	007/019/004/00/00/042						01	02	00
Mobile Bay	014/067/000/00/00/116						01	04	00
Neah Bay	003/012/008/00/00/070						01	01	00
<b>Totals</b>	<b>030/171/079/01/00/424</b>						<b>05</b>	<b>09</b>	<b>00</b>

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

**Area 6A (Whitefish Bay) -- 92 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Morro Bay	000/027/012/00/00/021						00	00	00
Neah Bay	000/018/000/00/00/014						00	00	00
<b>Totals</b>	<b>000/045/012/00/00/035</b>						<b>00</b>	<b>00</b>	<b>00</b>

**Area 6B (St Marys River - 693 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Biscayne Bay	000/010/057/00/00/102						00	00	00
Katmai Bay	013/028/054/01/00/131						00	02	00
Mobile Bay	000/016/004/00/00/011						00	00	00
Morro Bay	000/000/040/00/00/037						00	00	00
Neah Bay	002/008/091/00/00/088						00	02	00
<b>Totals</b>	<b>015/062/246/01/00/369</b>						<b>00</b>	<b>04</b>	<b>00</b>

**Area 7A (Eastern Lake Superior / Marquette) -- No Cutter Activity**

**Area 7B (Central Lake Superior / Keweenaw) -- No Cutter Activity**

**Area 8A (Duluth, Superior) - 156 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Alder	00/017/012/00/00/063						00	00	00
Biscayne Bay	00/000/004/00/00/060						00	00	00
<b>Totals</b>	<b>00/017/016/00/00/123</b>						<b>00</b>	<b>00</b>	<b>00</b>

**Area 8B (Two Harbors, Silver Bay, Apostle Islands) - No Cutter Activity**

**Area 8C (Thunder Bay, Ont) - 51 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Alder	00/000/017/00/00/034						00	00	00
<b>Totals</b>	<b>00/000/017/00/00/034</b>						<b>00</b>	<b>00</b>	<b>00</b>



**Area 9 (Green Bay, Escanaba, Marinette) - 309 Hrs of Cutter Support**

Cutter	DA	VA	PI	FR	FC	MC	US	CA	FF
Mackinaw	00/022/002/00/00/108						00	00	00
Katmai Bay	00/010/004/00/00/006						00	00	00
Mobile Bay	00/041/024/00/00/092						00	00	00
<b>Totals</b>	<b>00/073/030/00/00/206</b>						<b>00</b>	<b>00</b>	<b>00</b>

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

**Area 10B (Lake Michigan-South Calumet-Gary-Indiana-Burns Harbors) - No Cutter Activity**

**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 Ice
Mackinaw	005	068	018	00	00	0213	01	02	00	0304
Alder	000	017	029	00	00	0097	00	00	00	0143
Hollyhock	000	015	017	00	00	0034	00	00	00	0066
Biscayne Bay	001	047	095	01	00	0227	01	00	00	0371
Katmai Bay	025	080	063	01	00	0179	01	05	00	0348
Mobile Bay	014	124	028	00	00	0219	01	04	00	0385
Morro Bay	000	027	052	00	00	0058	00	00	00	0137
Neah Bay	005	038	099	00	00	0172	01	03	00	0314
<b>Totals</b>	<b>050</b>	<b>416</b>	<b>401</b>	<b>02</b>	<b>00</b>	<b>1199</b>	<b>05</b>	<b>14</b>	<b>00</b>	<b>2068</b>

**Night Operations:**

U.S. Coast Guard assets assigned to OPTAC completed two hours of nighttime icebreaking.

**Icebreaking Asset Sufficiency:**

**Satisfactory.** 132 (37%) of 372 hours of lost cutter support was attributed to COVID safety.

Seasonal Lost Cutter Hours			
Cutter	Casualty Related	Other - Logistics	Casualty (Unsked Charlie)
Mackinaw	12	00	Port Pod Control
Biscayne Bay	00	108	Medical-COVID alert / Fuel Order / COVID Shots
Katmai Bay	173	00	Anchor Windlass / JW Leak #1 MDE / SSDG
Mobile Bay	04	00	MDE
Morro Bay	03	00	Propulsion Generator
Neah Bay	00	72	Medical-COVID alert / Personnel Issue
<b>Totals</b>	<b>192 Hrs</b>	<b>180 Hrs</b>	<b>Totals 372 Hrs</b>



**MISLE Summary:**

Planned Waterway Closures	Date Closed	Date Opened	Authority	Remarks
7126513	01/19/21	03/11/21	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.
7126518	01/19/21	03/23/21	33 CFR 162.117	West Neebish Channel - VTS SMR closed the West Neebish Channel until further notice.
7126525	01/19/21	03/24/21	33 CFR 165.901	Grays Reef Passage - COTP SSM closed Grays Reef Passage until further notice.
7130077	01/28/21	03/09/21	33 CFR 165.901	South Channel - COTP SSM closed South Channel until further notice.
7139181	2/11/2021	03/07/2021	33 CFR 165.901	Moran Bay - COTP SSM closed the waters btwn Mackinac Island and St Ignace until further notice.
7130281	01/24/21	03/16/21	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	Remarks
7094623	11/12/21	04/14/21	33 CFR 161.11	<p>121400Z NOV 2020: 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).</p> <p>141400Z APR 2021: The US Army Corps of Engineers decommissioned Little Rapids Cut Lighted Ice Buoy 98B (LLNR 14105) and removed the ice boom from the east side of the channel. Restored two-way traffic routing.</p>





Waterway Events	Start Date	End Date	Remarks
7111263	11/14/2020	4/18/2021	161200Z Dec 19: MacArthur Lock Closure - USACE closed the MacArthur Lock for winter maintenance. 181100Z APR 21: MacArthur Lock Reopened - USACE opened the MacArthur Lock for the 2021 Navigation Season.
7114552	12/21/2020	3/26/2021	211301Z DEC 20: COTP SSM Commenced Operation Taconite. 261600Z MAR 21: COTP SSM secured Operation Taconite
7126495	1/16/2021	3/24/2021	160915Z Jan 21: Poe Lock Closure - USACE closed the Poe Lock for winter maintenance. 160915Z JAN 2021: Following the downbound passage of M/V WALTER J MCCARTHY, the USACE closed the Poe Lock for winter maintenance per 33 CFR Part 207. 241600Z MAR 2021: USACE opened the Poe Lock to commercial navigation. T/T LAURA L. VAN ENKEVORT/JOSEPH H. THOMPSON JR (In ballast for Marquette) locked through up bound officially opening the 2021 Great Lakes Navigation Season.
7152062	3/05/2021	3/07/2021	051800Z: SEC SSM received a request for assistance from the Wisconsin Electric Cooperative (WIECOOP). Washington Island Ferry reported Plumb Island LB 1 (LLNR 21345) to be adrift. Initially deemed not a hazard to navigation, representatives from the electric cooperative believed the aids mooring threatened submerged power and fiber optic cables connecting the island to the Door Peninsula. Follow on discussions revealed the aid's mooring already crossed the power cable and dragged the fiber optic cable @ 40'. WIECOOP's ROV survey revealed neither cable damaged. WIECOOP requested decommissioning of the aid until the spring. 07 Mar: CGC MACKINAW decommissioned the aid along with its mooring. MISLE WWM Act 7152062 documents the incident, classified as an Exigent Community Service Request.
1253158	3/15/2021	3/15/2021	151337Z Sector Lake Michigan received notification from Station Sturgeon Bay of approximately 20 persons stranded on a drifting ice floe adjacent to Sherwood Point near Sturgeon Bay, WI. Sector Lake Michigan launched Station Sturgeon Bay's 22' SPC-IRT with an ice rescue team and an MH-60 from Air Station Traverse City. CGC MACKINAW was in close proximity to Sherwood Point and started to make their way towards the distress location. The Wisconsin Department of Natural Resources (DNR) and the Sturgeon Bay Fire Department (FD) responded with ice skiffs to the ice floe. CGC MACKINAW provided their ice rescue team to assist. Sturgeon Bay FD arrived on scene and shuttled individuals to shore where EMS awaited. Rescued from the ice flow were sixteen people. MISLE Case 1253158 documents the Search and Rescue event.





Note: Not listed are MISLE waterway management activities documenting "ice and wx analysis", "industry outreach", and "tfc management tasks" performed by the Sector staff. This information is available upon request.

**List of Acronyms:**

DA – Direct Assistance

VA – Vessel Assistance

PI – Preventative Icebreaking

FR – Ferry Relief

FC – Flood Control

MC – Miscellaneous Ice Breaking



16150  
11 May 2021

## MEMORANDUM

From: B. W. Kelly, CAPT  
CG SECTOR Detroit

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

Subj: OPERATION COAL SHOVEL 2020-2021 END OF SEASON ICE REPORT

Ref: (a) Domestic Icebreaking Policy and Reporting Requirements, COMDTINST 16151.1 (series)  
(b) Ninth District Icebreaking Policy and Procedures, D9INST M16150.2 (series)  
(c) Operation Coal Shovel Standard Operating Procedures, SECDETINST 16150.1A

1. Per references (a) through (c), Sector Detroit's annual domestic ice operations commenced 2 February 2021 and concluded on 14 March 2021.

### 2. Narrative Summary:

a. Operation Coal Shovel commenced on February 2, 2021, and concluded on March 14, 2021 for a total of 40 days. Within the Operation Coal Shovel area of responsibility (AOR), U.S. Coast Guard cutters conducted a total of 527 hours of icebreaking in support of Operation Coal Shovel. In early February, 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 caused high water levels resulting in flooding in the St. Clair River. Freezing temperatures persisted throughout the month of February and part way into March. Ice began melting throughout March and commercial vessels were able to transit unhindered by ice by late March.

b. Operation Coal Shovel commenced on February 2, 2021, and concluded on March 14, 2021 for a total of 40 days. During this time period, USCGC HOLLYHOCK, USCGC BRISTOL BAY, USCGC MORRO BAY, USCGC NEAH BAY, USCGC KATMAI BAY, USCGC BISCAYNE BAY, CCGS SAMUEL RISLEY and CCGS GRIFFON participated in Operation Coal Shovel for a combined total of 527 icebreaking hours. Operation Coal Shovel estimates 105 vessels transited the AOR carrying 2,047,500 metric tons of cargo with an estimated value of \$73,710,000 US dollars. The primary cargo carried was salt, oil and liquid asphalt.

c. AIRSTA Detroit and Coast Guard Auxiliary provided excellent support with ice reconnaissance flights. AIRSTA Detroit completed 22 flights and Coast Guard Auxiliary completed seven flights for a total of 44 hours.

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

- a. The 2020-2021 ice season was determined to be mild.

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

- a. Operation Coal Shovel estimates 105 vessels transited the AOR carrying 2,047,500 metric tons of cargo with an estimated value of \$73,710,000 US dollars. The primary cargo carried was salt, oil and liquid asphalt.

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

- a. 100% of domestic icebreaking requests met.  
(1)

01	Urgent Vessel Response Requests
76	Icebreaking Assistance Requests
13	U.S. Vessels Directly Assisted
29	CA Vessels Directly Assisted
08	FF (Salties) Directly Assisted
51	Total Transits Assisted

- (2) 0 requests declined.

- b. Icebreaking Asset Availability:

- (1) 527 Total icebreaking operation hours.

- (2) 36 Scheduled Charlie hours.

- (3) 0 Unscheduled Charlie hours.

- c. Breakdown of lost cutter hours:

- (1) BRISTOL BAY: Fuel, 20 hours.

- (2) MORRO BAY: Fuel, 8 hours

- (3) KATMAI BAY: Fuel, 8 hours

d.

	DA	VA	PI	FR	MC
HOLLYHOCK	35.5	0	2	12.5	0
BRISTOL BAY	10	12	23	0	39
KATMAI BAY	40.5	27	0	11.5	13.5
NEAH BAY	10	3	21.5	0	11
MORRO BAY	25	0	60	59	68
BISCAYNE BAY	0	0	0	0	0

e. Percentage of time Tier One Waterways are open during the ice season.

(1) Total potential Tier One waterway availability for the domestic icebreaking season

Waterway	Hours (open / total)	Hours Restricted	Hours Closed	Percentage
St. Clair River	108	792	84	91%
Detroit River	984	00	00	100%
Pelee Passage	456	528	00	100%

(2) Waterway Restrictions: four restrictions:

- (a) St. Clair River – 792 hours
- (b) Pelee Passage – 528 hours
- (c) Saginaw Bay – 672 hours
- (d) Maumee Bay – 336 hours

(3) Waterway Closures: two closures: 48 hours, 36 hours

**6. Night Operations:** 0 night icebreaking hours (after sunset).

## **7. Best Practices/Process Improvement:**

a. Because of the uniqueness of the ice season this year, Operation Coal Shovel required a minimum of two US assets in its TACON through most of the Winter Navigation period. The weeks with fewer cutters in charlie status due to their Service Life Extension Program schedule made the coordination of assets much easier. We recommend the 2022 schedule be adjusted to allow all cutters to be fully available this winter.

b. There was extensive conversation regarding breaking the North Channel due to flooding along the St. Clair River. Further, the discussions occurred without having exhausted all other

options. It is recommended by Operation Coal Shovel that breaking the channel should be viewed as a last resort; doing so not only isolates the population on Harsens's Island for a minimum of 72 hours, but also creates extensive logistical issues for the movement of people and goods throughout the remainder of the season. I recommend a breakout session at the 2021-2022 Ice Conference to discuss all associated issues and alternatives.

c. Technology continues to be an issue as it's been nearly impossible to get approval to purchase non-standard laptops with Windows capabilities for use with the ATAK system. In addition, the process of replacing all non-apple cell phones with apple devices further hindered our ability to use of ATAK. Sector Detroit WWM division continues to seek creative ways to increase the technological abilities of Operation Coal Shovel.

d. Data collection outcomes/endpoints for icebreaking need to be clearly established/defined and then standard reporting formats for all required reports (daily, weekly and annual reports) established for Cutters and Operations Taconite and Coal Shovel. Training then needs to be provided by D9 to Ice Officers and Cutter personnel at the annual Ice Conference or via online webinar(s) or teleconference(s) prior to the 2021-2022 ice season.

e. 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.

#

Enclosures: (1) Operation Coal Shovel MISLE Activity Spreadsheet

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

<b>MISLE Activity Id</b>	<b>Title</b>	<b>Activity Subtype</b>
7141970	WWM - OP COAL SHOVEL - Flooding	MTS Disruption
7141982	Flooding - St. Clair River	MTS Disruption
7141940	WWM - OP COAL SHOVEL - MTS Disruption	MTS Disruption Ice
7141754	WWM - OP COAL SHOVEL - MTS Disruption	MTS Disruption Ice
7141141	WWM - OP COAL SHOVEL - MTS Diruption	MTS Disruption Ice
7135470	OP Coal Shovel - Outreach w/USACE	Outreach Gov't
7155321	WWM - Operation Coal Shovel - Industry Outreach	Outreach Gov't
7141488	WWM-OP COAL SHOVEL-OUTREACH	Outreach Gov't
7141486	WWM-OP COAL SHOVEL- OUTREACH	Outreach Gov't
7141482	WWM-OP COAL SHOVEL OUTREACH	Outreach Gov't
7138100	WWM-OP COAL SHOVEL-OUTREACH	Outreach Gov't
7135473	OP Coal Shovel - Outreach	Outreach Gov't
7128074	WWM - Operation Coal Shovel - Industry Outreach	Outreach Gov't
7123721	WWM - Operation Coal Shovel - Industry Outreach	Outreach Gov't
7119430	WWM - Operation Coal Shovel - Industry Outreach	Outreach Gov't
7119425	WWM - Operation Coal Shovel - Industry Outreach	Outreach Gov't
7119420	WWM - Operation Coal Shovel - Industry Outreach	Outreach Gov't
7119398	WWM - Operation Coal Shovel - Industry Outreach	Outreach Gov't
7163318	WWM - Operation Coal Shovel - Industry Outreach	Outreach Gov't
7162285	WWM - Operation Coal Shovel - Industry Outreach	Outreach Gov't
7135497	OP Coal Shovel - Outreach	Outreach Gov't
7162227	WWM - Operation Coal Shovel - Industry Outreach	
7110123	Livingstone Channel Closure - Industry Outreach	
7110119	Livingstone Channel Closure - Industry Call	
7142314	WWM - OP COAL SHOVEL - Outreach	Outreach Port
7142602	WWM - OP COAL SHOVEL - Outreach	Outreach Port
7141487	WWM-OP COAL SHOVEL- OUTREACH	Outreach Port
7138697	WWM OP COAL SHOVEL-OUTREACH	Outreach Port
7164842	WWM/USACE - Breakwater - Lake St. Clair, MI	
7164839	WWM/USACE Boatwell - Lake St. Claire, MI	
7164829	WWM/USACE Boathouse - Harsen's Island, MI	
7164815	WWM/USACE - Boat House - Harsen's Island, MI	
7164808	WWM-USACE Boat House - Harsen's Island, MI	
7110213	WWM - USACE - Seawall Replacement - Wyandotte, MI	
7110202	WWM - USACE - Docks/Boat Hoist - Gibraltar	
7110194	WWM - USACE - Dock Pilings/Dredge - Harsen's Isl.	
7110188	WWM - USACE Proposed Boathouse - SC River	
7110155	WWM - Bank Stabilization Detroit, MI	

<b>Waterway Name/Location</b>
St Clair River
Saint Clair River
St Clair River
Lake Erie
St Clair River
St Clair River South Channel
Detroit River
St Clair River
St Clair River
St Clair River
St Clair River
St Clair River South Channel
OP Coal Shovel AOR
Detroit River
Detroit River
Op Coal Shovel AOR
DETROIT RIVER
DETROIT RIVER
DETROIT RIVER
DETROIT RIVER
St Clair River South Channel
Lake Saint Clair
St Clair River
St Clair River
St Clair River
St Clair River
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DETROIT RIVER
Lake Erie
Lake Saint Clair
Lake Saint Clair
DETROIT RIVER