



**Map 2B**  
**Straits of Mackinac**



**SEE BACK OF MAP**  
for details about mapped species and  
other species that occur in mapped area.  
Data Published: October 2019

0 Not for Navigation 1 Miles  
0 1 Kilometers

**1:50,000**



Straits of Mackinac: Map 2B

BIOLOGICAL RESOURCES:

BENTHIC:

| RAR# | Species                      | S | F | Concentration | Mapping Qualifier    | Monthly Presence (Jan-Dec) |  |   |   |   |   |   |   |   |  |  |  |
|------|------------------------------|---|---|---------------|----------------------|----------------------------|--|---|---|---|---|---|---|---|--|--|--|
| 249  | Submerged aquatic vegetation |   |   | -             | General Distribution |                            |  | M | A | M | J | J | A | S |  |  |  |

BIRD:

| RAR# | Species                  | S | F | Concentration | Mapping Qualifier     | Monthly Presence (Jan-Dec) |   |   |   |   |   |   |   |   |   |   |   | Nesting | Migrating |         | Molting |
|------|--------------------------|---|---|---------------|-----------------------|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---------|-----------|---------|---------|
| 55   | Double-crested cormorant |   |   | 602 Nests     | Nesting               |                            |   | A | M | J | J | A | S |   |   |   |   | May-Aug | -         | -       | -       |
|      | Herring gull             |   |   | 334 Nests     | Nesting               | J                          | F | M | A | M | J | J | A | S | O | N | D | Apr-Jul | -         | -       | -       |
|      | Ring-billed gull         |   |   | 639 Nests     | Nesting               |                            |   | A | M | J | J | A | S | O |   |   |   | Apr-Aug | -         | -       | -       |
| 73   | Bald eagle               | C |   | -             | Vulnerable Occurrence | J                          | F | M | A | M | J | J | A | S | O | N | D | Feb-Jul | -         | -       | -       |
| 83   | Spruce grouse            | C |   | -             | Vulnerable Occurrence | J                          | F | M | A | M | J | J | A | S | O | N | D | Apr-Jul | -         | -       | -       |
| 88   | Caspian tern             | T |   | -             | Vulnerable Occurrence |                            |   | A | M | J | J | A | S |   |   |   |   | May-Sep | -         | -       | -       |
| 113  | Long-eared owl           | T |   | -             | Vulnerable Occurrence | J                          | F | M | A | M | J | J | A | S | O | N | D | Mar-Jun | Nov-Feb   | -       | -       |
| 261  | American coot            |   |   | -             | General Distribution  |                            |   | M | A | M | J | J | A | S | O | N |   | -       | -         | -       | -       |
|      | Black scoter             |   |   | -             | General Distribution  |                            |   | A | M |   |   |   |   | O | N |   | - | Apr-May | Oct-Nov   | -       | -       |
|      | Bufflehead               |   |   | -             | General Distribution  | J                          | F | M | A | M |   |   |   |   | O | N | D | -       | Oct-May   | -       | -       |
|      | Canvasback               |   |   | -             | General Distribution  | J                          | F | M | A | M | J | J | A | S | O | N | D | -       | -         | -       | -       |
|      | Common goldeneye         |   |   | -             | General Distribution  | J                          | F | M | A | M | J | J | A | S | O | N | D | -       | -         | -       | -       |
|      | Greater scaup            |   |   | -             | General Distribution  | J                          | F | M | A |   |   |   |   |   | O | N | D | -       | -         | -       | -       |
|      | Gulls                    |   |   | -             | General Distribution  | J                          | F | M | A | M | J | J | A | S | O | N | D | -       | Jan-Dec   | -       | -       |
|      | Lesser scaup             |   |   | -             | General Distribution  | J                          | F | M | A |   |   |   |   |   | O | N | D | -       | -         | -       | -       |
|      | Long-tailed duck         |   |   | -             | General Distribution  | J                          | F | M | A | M |   |   |   |   | O | N | D | -       | Oct-Apr   | -       | -       |
|      | Loons                    |   |   | -             | General Distribution  |                            |   | M | A | M | J | J | A | S | O |   |   | -       | -         | -       | -       |
|      | Raptors                  |   |   | -             | General Distribution  | J                          | F | M | A | M | J | J | A | S | O | N | D | -       | -         | -       | -       |
|      | Redhead                  |   |   | -             | General Distribution  | J                          | F | M | A | M | J | J | A | S | O | N | D | -       | -         | -       | -       |
|      | Ring-necked duck         |   |   | -             | General Distribution  |                            |   | M | A | M | J | J | A | S | O |   |   | -       | -         | -       | -       |
|      | White-winged scoter      |   |   | -             | General Distribution  | J                          | F | M | A | M |   |   |   |   | O | N | D | -       | Oct-May   | -       | -       |
| 262  | American black duck      |   |   | -             | General Distribution  | J                          | F | M | A | M | J | J | A | S | O | N | D | -       | -         | -       | -       |
|      | Bufflehead               |   |   | -             | General Distribution  | J                          | F | M | A | M |   |   |   |   | O | N | D | -       | Oct-May   | -       | -       |
|      | Canada goose             |   |   | -             | General Distribution  |                            |   | M | A | M | J | J | A | S |   |   |   | -       | -         | -       | -       |
|      | Canvasback               |   |   | -             | General Distribution  | J                          | F | M | A | M | J | J | A | S | O | N | D | -       | -         | -       | -       |
|      | Common goldeneye         |   |   | -             | General Distribution  | J                          | F | M | A | M | J | J | A | S | O | N | D | -       | -         | -       | -       |
|      | Double-crested cormorant |   |   | -             | General Distribution  |                            |   | M | A | M | J | J | A | S | O | N |   | -       | Mar-May   | Jul-Nov | -       |
|      | Greater scaup            |   |   | -             | General Distribution  | J                          | F | M | A |   |   |   |   |   | O | N | D | -       | -         | -       | -       |
|      | Green-winged teal        |   |   | -             | General Distribution  |                            |   | M | A | M | J | J | A | S | O | N |   | -       | Mar-May   | Sep-Nov | -       |
|      | Gulls                    |   |   | -             | General Distribution  | J                          | F | M | A | M | J | J | A | S | O | N | D | -       | Jan-Dec   | -       | -       |
|      | Hérons                   |   |   | -             | General Distribution  |                            |   | M | A | M | J | J | A | S | O |   |   | -       | -         | -       | -       |
|      | Lesser scaup             |   |   | -             | General Distribution  | J                          | F | M | A |   |   |   |   |   | O | N | D | -       | -         | -       | -       |
|      | Long-tailed duck         |   |   | -             | General Distribution  | J                          | F | M | A | M |   |   |   |   | O | N | D | -       | Oct-Apr   | -       | -       |
|      | Loons                    |   |   | -             | General Distribution  |                            |   | M | A | M | J | J | A | S | O |   |   | -       | -         | -       | -       |
|      | Mallard                  |   |   | -             | General Distribution  | J                          | F | M | A | M | J | J | A | S | O | N | D | -       | -         | -       | -       |
|      | Mergansers               |   |   | -             | General Distribution  | J                          | F | M | A | M | J | J | A | S | O | N | D | -       | -         | -       | -       |
|      | Redhead                  |   |   | -             | General Distribution  | J                          | F | M | A | M | J | J | A | S | O | N | D | -       | -         | -       | -       |
|      | Ring-necked duck         |   |   | -             | General Distribution  |                            |   | M | A | M | J | J | A | S | O |   |   | -       | -         | -       | -       |
|      | Swans                    |   |   | -             | General Distribution  |                            |   | M | A |   |   |   |   |   |   | O | N | D       | -         | -       | -       |
|      | Terns                    |   |   | -             | General Distribution  |                            |   | A | M | J | J | A | S | O |   |   |   | -       | -         | -       | -       |
|      | Wood duck                |   |   | -             | General Distribution  |                            |   | M | A | M | J | J | A | S | O | N |   | -       | -         | -       | -       |

FISH:

| RAR# | Species                     | S | F | Concentration | Mapping Qualifier    | Monthly Presence (Jan-Dec) |   |   |   |   |   |   |   |   |   |   |   | Spawning |   | Eggs    | Larvae  | Juveniles | Adults  |
|------|-----------------------------|---|---|---------------|----------------------|----------------------------|---|---|---|---|---|---|---|---|---|---|---|----------|---|---------|---------|-----------|---------|
| 140  | Rainbow smelt               |   |   | -             | Spawning Area        | J                          | F | M | A | M | J | J | A | S | O | N | D | Apr-May  | - | -       | Apr-Sep | -         | Jan-Dec |
| 143  | Lake whitefish              |   |   | -             | Spawning Area        | J                          | F | M | A | M | J | J | A | S | O | N | D | Nov-Dec  | - | -       | -       | -         | Jan-Dec |
| 184  | Lake trout                  |   |   | -             | Spawning Area        | J                          | F | M | A | M | J | J | A | S | O | N | D | Oct-Nov  | - | -       | -       | -         | Jan-Dec |
|      | Lake whitefish              |   |   | -             | Spawning Area        | J                          | F | M | A | M | J | J | A | S | O | N | D | Nov-Dec  | - | -       | -       | -         | Jan-Dec |
| 203  | Lake whitefish              |   |   | -             | Spawning Area        | J                          | F | M | A | M | J | J | A | S | O | N | D | Nov-Dec  | - | -       | -       | -         | Jan-Dec |
|      | Rainbow smelt               |   |   | -             | Spawning Area        | J                          | F | M | A | M | J | J | A | S | O | N | D | Apr-May  | - | -       | Apr-Sep | -         | Jan-Dec |
| 264  | Chinook salmon              |   |   | -             | Spawning Area        | J                          | F | M | A | M | J |   |   | S | O | N | D | Sep-Oct  | - | Sep-Jun | Sep-Jun | Sep-Jun   | Sep-Oct |
|      | Coho salmon                 |   |   | -             | Spawning Area        | J                          | F | M | A | M | J |   |   | S | O | N | D | Sep-Oct  | - | Sep-Jun | Sep-Jun | Sep-Jun   | Sep-Oct |
|      | Lake sturgeon               | T |   | -             | Spawning Area        | J                          | F | M | A | M | J | J | A | S | O | N | D | Apr-May  | - | Apr-Aug | Apr-Aug | Jan-Dec   | Jan-Dec |
|      | Longnose sucker             |   |   | -             | Spawning Area        | J                          | F | M | A | M | J | J | A | S | O | N | D | Apr-May  | - | Apr-Aug | Apr-Aug | Jan-Dec   | Jan-Dec |
|      | Pink salmon                 |   |   | -             | Spawning Area        | J                          | F | M | A | M | J |   |   | S | O | N | D | Sep-Oct  | - | Sep-Jun | Sep-Jun | Sep-Jun   | Sep-Oct |
|      | Rainbow smelt               |   |   | -             | Spawning Area        |                            |   |   | A | M | J | J | A | S |   |   |   | Apr-May  | - | Apr-May | Apr-Sep | Apr-Sep   | Apr-May |
|      | Steelhead                   |   |   | -             | Spawning Area        | J                          | F | M | A | M | J |   |   | S | O | N | D | Sep-Oct  | - | Sep-Jun | Sep-Jun | Sep-Jun   | Sep-Oct |
|      | White sucker                |   |   | -             | Spawning Area        | J                          | F | M | A | M | J | J | A | S | O | N | D | Apr-May  | - | Apr-Aug | Apr-Aug | Jan-Dec   | Jan-Dec |
| 265  | Atlantic salmon             |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | Sep-Jul   | Jan-Dec |
|      | Bloater                     |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | -         | Jan-Dec |
|      | Burbot                      |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Feb      | - | -       | -       | -         | Jan-Dec |
|      | Chinook salmon              |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | Sep-Jul   | Jan-Dec |
|      | Cisco                       |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Nov-Dec  | - | Nov-Apr | Mar-Apr | Jan-Dec   | Jan-Dec |
|      | Coho salmon                 |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | Sep-Jul   | Jan-Dec |
|      | Lake chub                   |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Mar-Jun  | - | -       | -       | -         | Jan-Dec |
|      | Lake sturgeon               | T |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Apr-May  | - | Apr-Aug | Apr-Aug | Jan-Dec   | Jan-Dec |
|      | Lake trout                  |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Oct-Nov  | - | Oct-Mar | Feb-Mar | Jan-Dec   | Jan-Dec |
|      | Lake whitefish              |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Nov-Dec  | - | Nov-Apr | Mar-Apr | Jan-Dec   | Jan-Dec |
|      | Longnose sucker             |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Apr-May  | - | Apr-Aug | Apr-Aug | Jan-Dec   | Jan-Dec |
|      | Northern pike               |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Mar-Jun  | - | -       | -       | Jan-Dec   | Jan-Dec |
|      | Rainbow smelt               |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | Apr-Sep   | Jan-Dec |
|      | Round whitefish (menomonee) |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Nov-Dec  | - | Nov-Apr | Mar-Apr | Jan-Dec   | Jan-Dec |
|      | Smallmouth bass             |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | May-Jul  | - | May-Aug | Jul-Aug | -         | Jan-Dec |
|      | Steelhead                   |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | Sep-Jul   | Jan-Dec |
|      | Walleye                     |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Mar-Jun  | - | -       | -       | -         | Jan-Dec |
|      | White sucker                |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Apr-May  | - | Apr-Aug | Apr-Aug | Jan-Dec   | Jan-Dec |
|      | Yellow perch                |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | May-Jul  | - | May-Aug | May-Aug | -         | Jan-Dec |
| 266  | Bloater                     |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | -         | Jan-Dec |
|      | Burbot                      |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | -         | Jan-Dec |
|      | Chinook salmon              |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | Jan-Dec   | Jan-Dec |
|      | Cisco                       |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Nov-Dec  | - | Nov-Apr | Mar-Apr | Jan-Dec   | Jan-Dec |
|      | Coho salmon                 |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | Jan-Dec   | Jan-Dec |
|      | Lake chub                   |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Mar-Jun  | - | -       | -       | -         | Jan-Dec |
|      | Lake sturgeon               | T |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | Jan-Dec   | Jan-Dec |
|      | Lake trout                  |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Oct-Nov  | - | Oct-Mar | Feb-Mar | Jan-Dec   | Jan-Dec |
|      | Lake whitefish              |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Nov-Dec  | - | Nov-Apr | Mar-Apr | Jan-Dec   | Jan-Dec |
|      | Longnose sucker             |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | Jan-Dec   | Jan-Dec |
|      | Northern pike               |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | Jan-Dec   | Jan-Dec |
|      | Rainbow smelt               |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | May-Sep | -         | Jan-Dec |
|      | Round whitefish (menomonee) |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | Nov-Dec  | - | Nov-Apr | Mar-Apr | Jan-Dec   | Jan-Dec |
|      | Smallmouth bass             |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | -         | Jan-Dec |
|      | Steelhead                   |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | Jan-Dec   | Jan-Dec |
|      | Walleye                     |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | -         | Jan-Dec |
|      | White sucker                |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | -       | Jan-Dec   | Jan-Dec |
|      | Yellow perch                |   |   | -             | General Distribution | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | - | -       | May-Sep | -         | Jan-Dec |
| 325  | Cisco                       |   |   | High          | Nursery Area         | J                          | F | M | A | M | J | J | A | S | O | N | D | Nov-Dec  | - | Nov-Apr | Mar-Apr | Jan-Dec   | Jan-Dec |
|      | Lake sturgeon               | T |   | -             | Nursery Area         | J                          | F | M | A | M | J | J | A | S | O | N | D | Apr-May  | - | Apr-Aug | Apr-Aug | Jan-Dec   | Jan-Dec |
|      | Lake whitefish              |   |   | High          | Nursery Area         | J                          | F | M | A | M | J | J | A | S | O | N | D | Nov-Dec  | - | Nov-Apr | Mar-Apr | Jan-Dec   | Jan-Dec |
|      | Longnose sucker             |   |   | High          | Nursery Area         | J                          | F | M | A | M | J | J | A | S | O | N | D | Apr-May  | - | Apr-Aug | Apr-Aug | Jan-Dec   | Jan-Dec |
|      | Round whitefish (menomonee) |   |   | High          | Nursery Area         | J                          | F | M | A | M | J | J | A | S | O | N | D | Nov-Dec  | - | Nov-Apr | Mar-Apr | Jan-Dec   | Jan-Dec |
|      | Smallmouth bass             |   |   | -             | Nursery Area         | J                          | F | M | A | M | J | J | A | S | O | N | D | Mar-Jun  | - | -       | -       | -         | Jan-Dec |
|      | Walleye                     |   |   | -             | Nursery Area         | J                          | F | M | A | M | J | J | A | S | O | N | D | Mar-Jun  | - | -       | -       | -         | Jan-Dec |

Straits of Mackinac: Map 2B (cont.)

BIOLOGICAL RESOURCES: (cont.)

| FISH (cont.): |              |   |   |               |                   |                            |   |   |   |   |   |   |   |   |   |   |   |          |      |         |           |         |         |
|---------------|--------------|---|---|---------------|-------------------|----------------------------|---|---|---|---|---|---|---|---|---|---|---|----------|------|---------|-----------|---------|---------|
| RAR#          | Species      | S | F | Concentration | Mapping Qualifier | Monthly Presence (Jan-Dec) |   |   |   |   |   |   |   |   |   |   |   | Spawning | Eggs | Larvae  | Juveniles | Adults  |         |
|               | White sucker |   |   | High          | Nursery Area      | J                          | F | M | A | M | J | J | A | S | O | N | D | Apr-May  | -    | Apr-Aug | Apr-Aug   | Jan-Dec | Jan-Dec |
|               | Yellow perch |   |   | -             | Nursery Area      | J                          | F | M | A | M | J | J | A | S | O | N | D | Mar-Jun  | -    | -       | May-Aug   | -       | Jan-Dec |

| HABITAT: |                            |   |   |               |                       |                            |   |   |   |   |   |   |   |   |   |   |   |
|----------|----------------------------|---|---|---------------|-----------------------|----------------------------|---|---|---|---|---|---|---|---|---|---|---|
| RAR#     | Species                    | S | F | Concentration | Mapping Qualifier     | Monthly Presence (Jan-Dec) |   |   |   |   |   |   |   |   |   |   |   |
| 96       | Federally threatened plant | T | T | -             | Vulnerable Occurrence | J                          | F | M | A | M | J | J | A | S | O | N | D |
| 111      | Threatened plant           | T |   | -             | Vulnerable Occurrence | J                          | F | M | A | M | J | J | A | S | O | N | D |

| HERPETOFAUNA: |                        |   |   |               |                       |                            |   |   |   |   |   |   |   |   |   |   |   |         |          |           |           |         |
|---------------|------------------------|---|---|---------------|-----------------------|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---------|----------|-----------|-----------|---------|
| RAR#          | Species                | S | F | Concentration | Mapping Qualifier     | Monthly Presence (Jan-Dec) |   |   |   |   |   |   |   |   |   |   |   | Nesting | Hatching | Internest | Juveniles | Adults  |
| 234           | Mudpuppy               |   | C | -             | General Distribution  | J                          | F | M | A | M | J | J | A | S | O | N | D | Mar-Jun | Apr-Jul  | -         | Jan-Dec   | Jan-Dec |
| 236           | Mudpuppy               |   | C | -             | General Distribution  | J                          | F | M | A | M | J | J | A | S | O | N | D | -       | -        | -         | Jan-Dec   | Jan-Dec |
| 268           | Sensitive herpetofauna |   |   | -             | Vulnerable Occurrence | J                          | F | M | A | M | J | J | A | S | O | N | D | -       | -        | -         | -         | -       |

| INVERTEBRATE: |                        |   |   |               |                       |                            |   |   |   |   |   |   |   |   |   |   |   |          |      |        |           |        |
|---------------|------------------------|---|---|---------------|-----------------------|----------------------------|---|---|---|---|---|---|---|---|---|---|---|----------|------|--------|-----------|--------|
| RAR#          | Species                | S | F | Concentration | Mapping Qualifier     | Monthly Presence (Jan-Dec) |   |   |   |   |   |   |   |   |   |   |   | Spawning | Eggs | Larvae | Juveniles | Adults |
| 110           | Threatened insect      |   | T | -             | Vulnerable Occurrence | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | -    | -      | -         | -      |
| 292           | Special concern mussel |   | C | -             | Vulnerable Occurrence | J                          | F | M | A | M | J | J | A | S | O | N | D | -        | -    | -      | -         | -      |