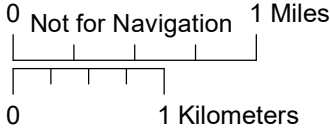


Map 16A
Straits of Mackinac



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



1:50,000



Straits of Mackinac: Map 16A

BIOLOGICAL RESOURCES:

BENTHIC:

| RAR# | Species | S | F | Concentration | Mapping Qualifier | Monthly Presence (Jan-Dec) | | | | | | | | | | | |
|------|------------------------------|---|---|---------------|----------------------|----------------------------|--|--|---|---|---|---|---|---|---|--|--|
| 247 | 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 |
|------|--------------------------|---|-----|---------------|-----------------------|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---------|-----------|---------|---------|
| 73 | Bald eagle | | C | - | Vulnerable Occurrence | J | F | M | A | M | J | J | A | S | O | N | D | Feb-Jul | - | - | - |
| 230 | 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 | | | Common | 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 | | | Common | 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 | | | Common | 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 | | | Abundant | 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 | | | Abundant | 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 | | | Common | General Distribution | J | F | M | A | M | | | | | O | N | D | - | Oct-May | - | - |
| 231 | American black duck | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | - | - | - | - |
| | Bufflehead | | | Common | 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 | | | Common | 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 | | | Common | 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 | | | Abundant | 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 | - | - | - | - |
| 332 | Piping plover | | E E | - | Nesting | | | | | A | M | J | J | A | S | | | Apr-Sep | - | - | - |
| | Red knot | | T | - | Migration | | | | | M | J | | | A | S | | | - | May-Jun | Aug-Sep | - |

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 |
| 233 | Alewife | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | May | - | - | - | - | Jan-Dec |
| | Atlantic salmon | | | - | 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 | - | - | - | - | 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 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 | Nov | - | Nov-Apr | Mar-Apr | 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 | Apr | - | - | - | - | Jan-Dec |
| | Rainbow smelt | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | Apr-May | - | - | Apr-Sep | - | Jan-Dec |
| | Round goby | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | - | - | - | - | - | Jan-Dec |
| | Smallmouth bass | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | May-Jun | - | May-Jul | - | - | 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 | Apr-May | - | - | Jan-Dec | Jan-Dec | 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 | Apr-May | - | - | - | - | Jan-Dec |
| 235 | Alewife | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | - | - | - | - | - | Jan-Dec |
| | Atlantic salmon | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | - | - | - | - | - | Jan-Dec |
| | Bloater | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | Nov-Dec | - | Nov-Apr | Mar-Apr | Jan-Dec | 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 | - | - | - | - | 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 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 | Nov | - | Nov-Apr | Mar-Apr | 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 |
| | Rainbow smelt | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | - | - | - | - | - | Jan-Dec |
| | Round whitefish (menomonee) | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | Oct-Nov | - | Oct-Apr | Mar-Apr | Jan-Dec | 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 | - | - | - | - | - | Jan-Dec |
| 237 | Alewife | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | - | - | - | - | - | Jan-Dec |
| | Atlantic salmon | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | - | - | - | - | - | Jan-Dec |
| | Bloater | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | Dec | - | Dec-Apr | - | - | 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 | - | - | - | - | Jan-Dec | Jan-Dec |
| | Coho salmon | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | - | - | - | - | Jan-Dec | Jan-Dec |
| | Deepwater sculpin | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | - | - | - | - | - | Jan-Dec |
| | Lake sturgeon | | T | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | - | - | - | - | - | Jan-Dec |
| | Lake trout | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | - | - | - | - | Jan-Dec | Jan-Dec |
| | Lake whitefish | | | - | 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 | - | - | - | - | - | Jan-Dec |
| | Steelhead | | | - | General Distribution | J | F | M | A | M | J | J | A | S | O | N | D | - | - | - | - | Jan-Dec | 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 | Interne | Juveniles | Adults |
|------|------------------------|---|---|---------------|-----------------------|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---------|----------|---------|-----------|---------|
| 72 | Eastern massasauga | C | T | - | Vulnerable Occurrence | | | M | A | M | J | J | A | S | O | | | Aug-Sep | - | - | - | - |
| 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 | - | - | - | - | - |

Straits of Mackinac: Map 16A (cont.)

BIOLOGICAL RESOURCES:

| 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 | - | - | - | - | - | - |