

FEATURE NAME: *THE BREAKWATER***LOCATION:****Ocean or sea:** Northwest Atlantic Ocean, Gulf of Maine region**Coordinates:****center point of feature**

Latitude	Longitude
42 ° 19.7'N	70° 27.9'W

linear feature

	Latitude	Longitude
from	42° 18.8'N	70° 25.1'W
to	42° 20.6'N	70° 30.7'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:**Feature type:** An assemblage of 2 banks**Size and shape:** The Breakwater is a pair of linear, northwest-trending banks that are located on the same northwest azimuth and are; separated by a gap of approximately 0.2 nm (0.4 km). The combined length is approximately 4.5 nm (8.4 km), and the combined area is approximately 3.2 sq nm (11.4 sq km)**Depth (max. and min.):** Tops of banks: 60-70 m; bases of banks: 85-95 m**Steepness, etc :** Maximum relief of banks ranges from 20 to 30 m**ASSOCIATED FEATURES:** The Breakwater lies in Stellwagen Basin west of Fifteen Bank, south of The Rockpile, and east of Compass Rose Bank. It is an assemblage of East Breakwater Bank and West Breakwater Bank.**CHART OR MAP REFERENCE:****Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000.

REASON FOR CHOICE OF NAME: The Breakwater is a linear, northwest-trending pair of banks in Stellwagen Basin. Both banks are similarly aligned, and possibly were connected at one time. East Breakwater Bank and West Breakwater Bank collectively are called The Breakwater by local commercial fishermen. This usage has been confirmed in interviews with the fishermen, especially with Frank Mirarchi of Scituate, Massachusetts who has fished the region for over 20 years. As The Breakwater is actually 2 separate features, they have been given separate names here, and the

name The Breakwater is proposed to refer to the group of 2 features (see separate descriptions for East Breakwater Bank and West Breakwater Bank).

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: **COMPASS ROSE BANK**

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:**center point of feature**

Latitude	Longitude
42° 20.4'N	70° 34.3'W

linear feature

	Latitude	Longitude
from	42° 19.8'N	70° 32.2'W
to	42° 21.7'N	70° 36.0'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Bank

Size and shape: Compass Rose Bank is a sinuous, linear, northwest-trending feature that is approximately 3.4 nm (6.4 km) long and 0.6 to 0.8 nm (1.1 to 1.5 km) wide. Total area is approximately 2.25 sq nm (7.9 sq km).

Depth (max. and min.): Top of feature 55 m; base 70-85 m.

Steepness, etc : Maximum relief of feature is approximately 25 m on the southwestern flank

ASSOCIATED FEATURES: Compass Rose Bank lies in Stellwagen Basin northwest of The Breakwater.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13267, Massachusetts Bay, 29th edition, scale 1:80,000. [feature indicated by sounding only]

REASON FOR CHOICE OF NAME: Compass Rose Bank is a linear, northwest-trending feature in Stellwagen Basin. The bank is located within the compass rose printed on the nautical chart commonly used by commercial fishermen in this region (NOS Chart 13267). The name Compass Rose Bank traditionally is used by them to refer to this feature. This usage has been confirmed in interviews with the fishermen, especially with Frank Mirarchi of Scituate, Massachusetts who has fished the region for over 20 years.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National

Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

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Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: *THE COVE*

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 49.0'N	70° 22.7'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner	42° 47.5'N	70° 20.0'W
S.W. corner	42° 48.6'N	70° 25.4'W
N.W. corner	42° 51.4'N	70° 24.3'W

DESCRIPTION:

Feature type: Basin

Size and shape: The Cove is a U-shaped feature that opens to the northwest. It is approximately 4.2 nm (7.9 km) long and 1.2-2.8 nm (2.2-5.2 km) wide. Total area is approximately 7.6 sq nm (26.5 sq km).

Depth (max. and min.): Basin depths range from 110 to 140 m.

Steepness, etc : Maximum relief of the basin walls is approximately 80-85 m on the northeast-facing side.

ASSOCIATED FEATURES: The Cove is bounded on the northeast and east by Jeffreys Ledge and on the southwest by Scantum Spur. The Cove is a subsidiary basin within Scantum Basin.

CHART OR MAP REFERENCE:**Name and feature shown on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000.

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape Ann, 24th edition, scale 1:80,000.

Feature shown but not named on:

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000.

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000.

REASON FOR CHOICE OF NAME: The Cove is a subsidiary basin within Scantum Basin. The name appears on several maps (NOS Charts 13009 and 13278), but the name until now has never been proposed and therefore does not appear in the Gazetteer of Undersea Features. The purpose of this report is to formalize the name The Cove which

is in use today and which appears on published NOS charts.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

- Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.
- Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.
- Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: **CREED BASIN**

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:**center point of feature**

Latitude	Longitude
42° 32.6'N	70° 22.2'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 33.9'N	70° 22.1'W
S.E. corner	42° 30.7'N	70° 20.8'W
S.W. corner	42° 30.5'N	70° 21.5'W
N.W. corner	42° 34.5'N	70° 24.1'W
additional corner	42° 33.8'N	70° 23.9'W
additional corner	42° 33.0'N	70° 22.7'W
additional corner	42° 31.7'N	70° 23.0'W

DESCRIPTION:

Feature type: Basin

Size and shape: Creed Basin is a relatively long, narrow, north northwest-trending feature. It is approximately 4.4 nm (8.2 km) long and varies from 0.5 to 1.0 nm (0.9 to 1.9 km) wide. Total area is approximately 3.2 sq nm (11.2 sq km).

Depth (max. and min.): Basin depths range from 125 to 165 m.

Steepness, etc : Maximum relief of basin walls is approximately 60-65 m. Maximum local relief of the basin floor is approximately 20-25 m.

ASSOCIATED FEATURES: Creed Basin is bounded on the east by Creed Ridge and on the west by Polygon Basin, Polygon Bank, and Gloucester Basin.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

REASON FOR CHOICE OF NAME: Creed Basin extends along the western flank of Creed Ridge. Both features are named in honor of the Canadian Hydrographic Service vessel *Frederick G. Creed* that conducted the multibeam survey of the region in 1994-1996. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

- Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.
- Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.
- Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

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Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***CREED RIDGE***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 32.3'N	70° 20.6'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N. corner	42° 35.2'N	70° 23.8'W
N.E. corner	42° 34.0'N	70° 19.8'W
S.E. corner	42° 31.1'N	70° 18.6'W
S. corner	42° 29.3'N	70° 19.0'W
S.W. corner	42° 29.8'N	70° 20.6'W
W. corner	42° 33.3'N	70° 22.1'W
N.W. corner	42° 34.7'N	70° 24.3'W
additional corner	42° 33.9'N	70° 22.1'W

DESCRIPTION:

Feature type: Ridge

Size and shape: Creed Ridge is a north south-trending, somewhat sinuous feature with steep sides whose hilly surface is dissected by numerous small gullies. It is approximately 6.9 nm (12.9 km) long and 0.5-1.7 nm (0.9-3.2 km) wide. Total area is approximately 9.0 sq nm (31.5 sq km).

Depth (max. and min.): Top of feature 85-100 m; base 130-190 m.

Steepness, etc : Maximum relief is approximately 105 m on the eastern flank; minimum relief is approximately 20 m on the northeastern flank where it is bounded on the north by Lower Jeffreys Ledge.

ASSOCIATED FEATURES: Creed Ridge is bounded on the west by Creed Basin, on the north by Lower Jeffreys Ledge, on the east by West Tillies Basin, and on the south by Little Tillies Bank and Gloucester Basin.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

REASON FOR CHOICE OF NAME: Creed Ridge is bounded on the west by Creed Basin. Both features are named in honor of the Canadian Hydrographic Service vessel *Frederick G. Creed* that conducted the multibeam survey of the region in 1994-1996. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***EAST BREAKWATER BANK***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 19.3'N	70° 26.5'W

linear feature

	Latitude	Longitude
from	42° 19.0'N	70° 25.3'W
to	42° 19.7'N	70° 28.3'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Bank

Size and shape: East Breakwater Bank is a linear, northwest-trending feature that is approximately 2.4 nm (4.5 km) long and 1.2 nm (2.2 km) wide. Total area is approximately 2 sq nm (7 sq km).

Depth (max. and min.): Top of feature 60 m; base 85-90 m.

Steepness, etc : Maximum relief of feature is approximately 30 m on the southern flank.

ASSOCIATED FEATURES: East Breakwater Bank lies in Stellwagen Basin, just to the southeast of West Breakwater Bank and west of Fifteen Bank. It is the eastern part of a pair of banks that collectively are called The Breakwater (see separate description).

CHART OR MAP REFERENCE:**Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

REASON FOR CHOICE OF NAME: East Breakwater Bank is a linear, northwest-trending bank in Stellwagen Basin. It is located 0.2 nm (0.4 km) southeast of West Breakwater Bank. Both features are similarly aligned, and possibly were connected at one time. East Breakwater Bank and West Breakwater Bank collectively are called The Breakwater by local commercial fishermen. This usage has been confirmed in interviews with the fishermen, especially with Frank Mirarchi of Scituate, Massachusetts who has fished the region for over 20 years. As The Breakwater is actually 2 separate features, they have been given separate names here, and the name The Breakwater refers to a group of 2 features.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane

twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

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Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***EAST HILL***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 45.9'N	70° 10.9'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 46.1'N	70° 10.3'W
S.E. corner	42° 45.5'N	70° 10.3'W
S.W. corner	42° 45.6'N	70° 11.5'W
N.W. corner	42° 46.4'N	70° 11.6'W

DESCRIPTION:

Feature type: Hill

Size and shape: East Hill is a large feature with a pointed conical summit. It has more relief on its southern flank than on its northern flank. It is approximately 1.3 nm (2.4 km) long and 1.0 nm (1.9 km) wide. Total area is approximately 0.8 sq nm (2.8 sq km).

Depth (max. and min.): Top of feature is 50 m; base 80 m.

Steepness, etc : Maximum relief of feature is approximately 75 m on the southern flank.

ASSOCIATED FEATURES: East Hill is located east of Sanctuary Hill and is bounded on the northwest by Pigeon Basin and on the south by Sanctuary Basin.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000. [feature not well defined]

REASON FOR CHOICE OF NAME: East Hill is a prominent bedrock outcrop with a pointed conical summit that is deeply exhumed on its southern flank by glacial scouring. It lies just east of a similar, but more exposed feature named Sanctuary Hill. Interviews with local commercial fishermen failed to identify an appropriate local name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***EAST NINETY BANK***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 16.7'N	70° 02.5'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 17.5'N	70° 02.0'W
S.E. corner	42° 16.0'N	70° 02.0'W
S.W. corner	42° 15.9'N	70° 03.3'W
N.W. corner	42° 17.4'N	70° 02.9'W

DESCRIPTION:

Feature type: Bank

Size and shape: East Ninety Bank is a subrectangular feature with a relatively flat top that is approximately 1.6 nm (2.9 km) long and 1.0 nm (1.9 km) wide. Total area is approximately 1.5 sq nm (5.2 sq km). It is separated by a shallow valley from North Ninety Bank to the west.

Depth (max. and min.): Top of feature 90-95 m; base 100-180 m.

Steepness, etc : Maximum relief of feature is approximately 85 m on the east flank.

ASSOCIATED FEATURES: East Ninety Bank lies just east of North Ninety Bank and north of Middle Ninety Bank. It is part of an assemblage of 4 banks called Ninety Meter Banks (see separate description).

CHART OR MAP REFERENCE:**Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13260, Bay of Fundy to Cape Cod, 36th edition, scale 1:378,838. [feature not well defined]

REASON FOR CHOICE OF NAME: East Ninety Bank is the easternmost bank of an assemblage of 4 small, well-defined subrectangular banks (Ninety Meter Banks) that lie just to the east of Stellwagen Bank. They are separated from each other by valleys of varying depth, and thus their relief is variable. However, their unifying characteristic is the depth to their relatively flat top surfaces. The bank tops all lie at approximately 90 m water depth, a result of their common origin by glacial erosion. The word "meter" is part of the collective name (Ninety Meter Banks) of the 4 features, but it is not included in the names of the individual banks as it would make the name too long and cumbersome.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***EAST PIGEON HILL***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 46.5'N	70° 14.4'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 46.8'N	70° 14.1'W
S.E. corner	42° 46.4'N	70° 14.2'W
S.W. corner	42° 46.3'N	70° 14.5'W
N.W. corner	42° 46.5'N	70° 14.8'W

DESCRIPTION:

Feature type: Hill

Size and shape: East Pigeon Hill is a conical, northeast-trending feature. It is approximately 0.5 nm (0.9 km) long and 0.3-0.4 nm (0.6-0.7 km) wide. Total area is approximately 0.2 sq nm (0.7 sq km).

Depth (max. and min.): Top of feature is approximately 30 m; base is 50-55 m.

Steepness, etc : Maximum relief of feature is approximately 25 m on the southeastern flank.

ASSOCIATED FEATURES: East Pigeon Hill lies on the eastern part of Jeffreys Ledge, just east of West Pigeon Hill, and northwest of Pigeon Basin.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000.

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000.

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape Ann, 24th edition, scale 1:80,000.

REASON FOR CHOICE OF NAME: East Pigeon Hill is a small but prominent bedrock outcrop that protrudes from the relatively flat sandy surface of Jeffreys Ledge. The hill has been the site of intensive biological research, and it was named unofficially as Pigeon Hill by Richard A. Cooper (Marine Sciences and Technology Center, University of Connecticut) in a NOAA publication (Hulbert et al., 1982, *Ecosystem definition and community structure of the macrobenthos of the NEMP monitoring station at Pigeon Hill in the Gulf of Maine: NOAA Technical Memorandum NMFS-F/NEC-14*). The name is used by scientists to this day. However, because the name Pigeon Hill now is used for 7 features in Massachusetts (some nearby in Essex County), the new feature is named East Pigeon Hill to distinguish it from an adjacent twin feature that is named West Pigeon Hill elsewhere in this report. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane

twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***EAST TILLIES BASIN***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 33.8'N	70° 15.2'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N. corner	42° 37.9'N	70° 17.0'W
N.E. corner	42° 36.8'N	70° 16.2'W
S.E. corner	42° 30.1'N	70° 14.0'W
S.W. corner	42° 29.9'N	70° 14.6'W
W. corner	42° 33.8'N	70° 15.4'W
N.W. corner	42° 37.5'N	70° 17.8'W
additional corner	42° 36.9'N	70° 16.8'W

DESCRIPTION:

Feature type: Basin

Size and shape: East Tillies Basin is an elongate, narrow northsouth-trending feature that varies little in width. It is approximately 8.3 nm (15.6 km) long and 0.3-0.7 nm (0.6-1.3 km) wide. Total area is approximately 4.0 sq nm (14.0 sq km).

Depth (max. and min.): Basin depths range from 110 to 150 m.

Steepness, etc : Maximum relief of basin walls is approximately 50-80 m on the eastern and western sides. Maximum local relief of the basin floor is approximately 30 m in the northern part.

ASSOCIATED FEATURES: East Tillies Basin is bounded on the north by North Tillies Basin and on the west by Tillies Bank.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape Ann, 24th edition, scale 1:80,000. [northern part of feature only]

REASON FOR CHOICE OF NAME: Background on the name "**Tillies**."

Tillies Bank is a very prominent feature that is well known by commercial fishermen and marine scientists who work in the region. The name appears on several maps (NOS Chart 13009; NOS Bathymetric Fishing Map, Gloucester sheet), but the name has never been proposed and therefore does not appear in the Gazetteer of Undersea

Features. See formalization of the name Tillies Bank in this report.

The name **Tillies Basin** was applied by Uchupi to a feature that does not exist at the described location, and the label on the NOS Bathymetric Fishing Map adds to the confusion about the location of Tillies Basin.

The new multibeam survey (1994-1996) that is the basis for the new feature names clearly shows that there is no large basin at the location (42° 30'N, 70° 20'W; official coordinates for Tillies Basin in the Gazetteer of Undersea Features), where a large basin (Tillies Basin) is shown (but not labeled) on Uchupi's map. The described coordinates actually fall on a feature now named Creed Ridge, a feature not represented on Uchupi's map. See justification in this report for removing the name Tillies Basin.

The new survey shows that Tillies Bank is bounded on the north, east, and west by 3 large, long deep basins. As the name Tillies has been used for many years in this region, it is appropriate to retain it in the 3 newly-named basins that enclose Tillies Bank (North Tillies Basin, East Tillies Basin, and West Tillies Basin).

East Tillies Basin bounds the east side of Tillies Bank and is the east fork of North Tillies Basin. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

Summary of the use of the name "Tillies" in this and accompanying documents:

Formalize the name **Tillies Bank**.

Name a new feature **Little Tillies Bank**.

Remove the name **Tillies Basin** (feature does not exist; retention of name will be confusing).

Name three new features **North Tillies Basin**, **East Tillies Basin**, and **West Tillies Basin**.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the

Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: *ELLIPSE BANK*

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 29.6'N	70° 28.1'W

linear feature

	Latitude	Longitude
from	42° 28.7'N	70° 27.6'W
to	42° 30.6'N	70° 28.6'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Bank

Size and shape: Ellipse Bank is a relatively flat, northwest-trending feature. The bank surface is elliptical in outline. It is approximately 2 nm (3.7 km) long and 1.2 nm (2.2 km) wide. Total area is approximately 1.8 sq nm (6.1 sq km).

Depth (max. and min.): Top of feature 60-65 m; base 85-120 m.

Steepness, etc : Maximum relief of feature is approximately 55 m on the eastern flank.

ASSOCIATED FEATURES: Ellipse Bank lies northeast of Lower Stellwagen Bank and is bounded on the east by Stenos Basin.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

REASON FOR CHOICE OF NAME: Ellipse Bank is a northwest-trending bank with a distinctively elliptical surface outline. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist
 Organization: U.S. Geological Survey
 Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543
 tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: *FIFTEEN BANK*

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 19.1'N	70° 23.2'W

linear feature

	Latitude	Longitude
from	42° 18.6'N	70° 22.8'W
to	42° 19.4'N	70° 23.5'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Bank

Size and shape: Fifteen Bank is a small, linear, northwest-trending bank that is approximately 1.0 nm (1.9 km) long and 0.2 nm (0.4 km) wide. Total area is approximately 0.4 sq nm (1.4 sq km).

Depth (max. and min.): Top of feature 70 m; base 85-105 m.

Steepness, etc : Maximum relief of feature is approximately 35 m along the northern flank.

ASSOCIATED FEATURES: Fifteen Bank lies in Stellwagen Basin, west of and adjacent to Western Spur.

CHART OR MAP REFERENCE:

Feature shown but not named on:

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

REASON FOR CHOICE OF NAME: Fifteen Bank is a small, linear, northwest-trending feature that lies near the intersection of Loran-C coordinates 9960-W-13815 and 9960-Y-44215. The local commercial fishermen continue to

navigate by Loran-C when they tow their gear, and they refer to this feature in various ways using the term "Fifteen". This usage has been confirmed in interviews with the fishermen, especially with Frank Mirarchi of Scituate, Massachusetts who has fished the region for over 20 years.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: *FIRST BASIN*

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

**Coordinates:
center point of feature**

Latitude	Longitude
42° 41.4'N	70° 17.2'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N. corner	42° 41.8'N	70° 17.1'W
N.E. corner	42° 42.5'N	70° 14.5'W
S.E. corner	42° 41.6'N	70° 14.3'W
S. corner	42° 40.7'N	70° 17.2'W
S.W. corner	42° 40.4'N	70° 18.9'W
W. corner	42° 41.0'N	70° 21.0'W
N.W. corner	42° 42.3'N	70° 19.5'W
additional corner	42° 40.8'N	70° 17.9'W

DESCRIPTION:

Feature type: Basin

Size and shape: First Basin is an elongate, eastwest-trending feature that narrows to the east. It is approximately 4.9 nm (9.2 km) long and 0.7-2.0 nm (1.3-3.7 km) wide, and its minimum dimension is approximately 3.0 nm (5.6 km). Total area is approximately 6.0 sq nm (21.0 sq km).

Depth (max. and min.): Basin depths range from 90 to 145 m.

Steepness, etc : Maximum relief of the basin walls is approximately 60-65 m on the northern side. Maximum local relief of the basin floor is approximately 20 m.

ASSOCIATED FEATURES: First Basin is bounded on the north by Jeffreys Ledge and on the south by North Tillies Basin and Lower Jeffreys Ledge.

CHART OR MAP REFERENCE:

Feature shown but not named on:

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000.
National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape Ann, 24th edition, scale 1:80,000.

REASON FOR CHOICE OF NAME: First Basin is an elongate, east-west-trending basin located south of Jeffreys Ledge, a major fishing ground. Gloucester fishermen working on Jeffreys Ledge traditionally refer to this basin as First Basin, as it is the first deep area they encounter on the southeastern flank of Jeffreys Ledge when sailing from Gloucester. This usage has been confirmed in interviews with the fishermen, including Andrew Giacalone, Sam Novello, Russel Sherman, and Richard Taylor of Gloucester, Massachusetts.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: *GLOUCESTER BANK***LOCATION:****Ocean or sea:** Northwest Atlantic Ocean, Gulf of Maine region**Coordinates:****center point of feature**

Latitude	Longitude
42° 33.0'N	70° 33.0'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 34.6'N	70° 30.3'W
S.E. corner	42° 32.7'N	70° 30.1'W
S.W. corner	42° 31.2'N	70° 35.6'W
N.W. corner	42° 34.1'N	70° 35.0'W

DESCRIPTION:**Feature type:** Bank**Size and shape:** Gloucester Bank is a subrectangular, chiefly eastwest-trending feature with a very uneven surface. It is approximately 4.5 nm (8.4 km) long and 2.4 nm (4.5 km) wide. Total area is approximately 9.5 sq nm (33.2 sq km).**Depth (max. and min.):** Top of feature 45-55 m; base 60-80 m.**Steepness, etc :** Maximum relief of feature is approximately 20 m on the eastern flank.**ASSOCIATED FEATURES:** Gloucester Bank is bounded on the east by the western part of Gloucester Basin.**CHART OR MAP REFERENCE:****Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

REASON FOR CHOICE OF NAME: Gloucester Bank is located 4 nm (7.5 km) southeast of the entrance to

Gloucester Harbor, Massachusetts. It is bounded by Gloucester Basin on the east. Gloucester is the major fishing port in the region. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: **GLOUCESTER BASIN**

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:**center point of feature**

Latitude	Longitude
42° 30.6'N	70° 23.7'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N. corner	42° 35.8'N	70° 28.8'W
N.E. corner	42° 30.5'N	70° 21.5'W
S.E. corner	42° 28.6'N	70° 17.2'W
S. corner	42° 27.4'N	70° 17.9'W
S.W. corner	42° 30.3'N	70° 27.0'W
N.W. corner	42° 33.8'N	70° 30.4'W

DESCRIPTION:

Feature type: Basin

Size and shape: Gloucester Basin is an elongate, northwest-trending feature. It is approximately 11.5 nm (21.6 km) long and from 1.0 to 2.5 nm (1.9 to 4.7 km) wide. Total area is approximately 21.0 sq nm (73.5 sq km).

Depth (max. and min.): Basin depths range from 80 to 180 m.

Steepness, etc : Maximum relief of basin walls is approximately 60-70 m on the northeastern side. Maximum local relief of the basin floor is approximately 20-30 m.

ASSOCIATED FEATURES: Gloucester Basin is bounded on the northeast by Thacher Bank, Polygon Basin, Polygon Bank, Creed Basin, Creed Ridge, and Little Tillies Bank, on the southwest by Ellipse Bank and Stenos Basin, and on the west by Gloucester Bank.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape

Ann, 24th edition, scale 1:80,000. [feature not well defined]

REASON FOR CHOICE OF NAME: Gloucester Basin is a relatively large northwest-trending basin that lies approximately 8 nm (15 km) east of the entrance of Gloucester Harbor, Massachusetts. It is bounded on the west by Gloucester Bank. Gloucester is the major fishing port in the region. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: *LITTLE TILLIES BANK***LOCATION:****Ocean or sea:** Northwest Atlantic Ocean, Gulf of Maine region**Coordinates:****center point of feature**

Latitude	Longitude
42° 29.5'N	70° 17.7'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N. corner	42° 30.8'N	70° 18.4'W
N.E. corner	42° 30.1'N	70° 17.2'W
S.E. corner	42° 28.7'N	70° 16.5'W
S. corner	42° 28.2'N	70° 17.0'W
S.W. corner	42° 28.8'N	70° 17.9'W
N.W. corner	42° 29.7'N	70° 18.5'W

DESCRIPTION:**Feature type:** Bank**Size and shape:** Little Tillies Bank is a sinuous, northsouth-trending feature with a relatively flat surface. It is approximately 2.8 nm (5.2 km) long and 0.4-1.0 nm (0.7-1.9 km) wide. Total area is approximately 1.7 sq nm (5.9 sq km).**Depth (max. and min.):** Top of feature is 70-75 m; base is 100-185 m..**Steepness, etc :** Maximum relief of feature is approximately 95 m on the northeastern flank.**ASSOCIATED FEATURES:** Little Tillies Bank is bounded on the northwest by Creed Ridge, on the southwest by the southeastern part of Gloucester Basin, and on the east by West Tillies Basin.**CHART OR MAP REFERENCE:****Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

REASON FOR CHOICE OF NAME: Background on the name "Tillies."

Tillies Bank is a very prominent feature that is well known by commercial fishermen and marine scientists who work in the region. The name appears on several maps (NOS Chart 13009; NOS Bathymetric Fishing Map, Gloucester sheet), but the name has never been proposed and therefore does not appear in the Gazetteer of Undersea Features. See formalization of the name Tillies Bank in this report.

The name **Tillies Basin** was applied by Uchupi to a feature that does not exist at the described location, and the label on the NOS Bathymetric Fishing Map adds to the confusion about the location of Tillies Basin.

The new multibeam survey (1994-1996) that is the basis for the new feature names proposed at this time clearly shows that there is no large basin at the location (42° 30'N, 70° 20'W; official coordinates for Tillies Basin in the Gazetteer of Undersea Features), where a large basin (Tillies Basin) is shown (but not labeled) on Uchupi's map. The described coordinates actually fall on a feature now named Creed Ridge, a feature not represented on Uchupi's map. See justification in this report for removing the name Tillies Basin.

The small, distinctive bank named here **Little Tillies Bank** is located within the area occupied by the non-existent large basin shown on Uchupi's map. It lies in the "Tillies" region, and is separated from Tillies Bank by West Tillies Basin and from Creed Ridge by a deep, narrow valley. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

Summary of proposed use of the name "Tillies" in this and accompanying documents:

Formalize the name **Tillies Bank**.

Name a new feature **Little Tillies Bank**.

Remove the name **Tillies Basin** (feature does not exist; retention of name will be confusing).

Name three new features **North Tillies Basin**, **East Tillies Basin**, and **West Tillies Basin**.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above)

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

- Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.
- Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.
- Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov**FEATURE NAME:** **LONG BANK****LOCATION:****Ocean or sea:** Northwest Atlantic Ocean, Gulf of Maine region**Coordinates:****center point of feature**

Latitude	Longitude
42° 14.5'N	70° 28.7'W

linear feature

	Latitude	Longitude
from	42° 13.5'N	70° 27.6'W
to	42° 15.7'N	70° 30.7'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:**Feature type:** Bank**Size and shape:** Long Bank is a subrectangular, northwest-trending linear feature that is approximately 3.1 nm (5.8 km) long and 0.8 nm (1.5 km) wide. Total area is approximately 2.4 sq nm (8.4 sq km).**Depth (max. and min.):** Top of feature 55 m; base 70 m.**Steepness, etc :** Maximum relief of feature is approximately 15 m.

ASSOCIATED FEATURES: Long Bank is located in the southwestern part of Stellwagen Basin.

CHART OR MAP REFERENCE:

Feature shown but not named on:

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

REASON FOR CHOICE OF NAME: Long Bank is one of several isolated banks that occur in Stellwagen Basin. The bank is named for its distinctive shape. It is subrectangular and is approximately 4 times longer than it is wide; in contrast to the several other banks in Stellwagen Basin which display a variety of shapes. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov**FEATURE NAME:** *LOWER JEFFREYS LEDGE***LOCATION:****Ocean or sea:** Northwest Atlantic Ocean, Gulf of Maine region**Coordinates:****center point of feature**

Latitude	Longitude
42° 37.7'N	70° 21.2'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N. corner	42° 41.0'N	70° 21.0'W
N.E. corner	42° 40.8'N	70° 17.9'W
S.E. corner	42° 34.0'N	70° 19.8'W
S.W. corner	42° 35.2'N	70° 23.8'W
W. corner	42° 36.4'N	70° 24.2'W
N.W. corner	42° 37.8'N	70° 27.0'W
additional corner	42° 40.4'N	70° 18.9'W

DESCRIPTION:**Feature type:** Bank

Size and shape: Lower Jeffreys Ledge is a subrectangular, gently southeastward-sloping feature that extends southward from Jeffreys Ledge, but lies at a greater water depth than the surface of Jeffreys Ledge. The seabed of Lower Jeffreys Ledge is relatively smooth in the northern part but hilly in the southern part. It is approximately 7.0 nm (13.1 km) long and 7.0 nm (13.1 km) wide, and its minimum dimension is approximately 3.0 nm (5.6 km). Total area is approximately 24.0 sq nm (84.0 sq km).

Depth (max. and min.): Top of feature 70-90 m; base 110-180 m.

Steepness, etc : Maximum relief of feature is approximately 105 m on the southeastern flank. Lower Jeffreys Ledge lies approximately 20 m deeper than the surface of Jeffreys Ledge where the two features abut.

ASSOCIATED FEATURES: Lower Jeffreys Ledge is bounded on the northwest by Jeffreys Ledge, on the northeast

by First Basin and North Tillies Basin, on the southeast by West Tillies Basin, and on the southwest by Creed Ridge and Thacher Basin.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000.

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape Ann, 24th edition, scale 1:80,000.

REASON FOR CHOICE OF NAME: Lower Jeffreys Ledge is a gently southeastward-sloping feature bounded by steeper descending slopes on all sides except on the northwestern side where it is bounded by an ascending slope to Jeffreys Ledge. The feature most resembles a bank because its flanks slope away on all sides except for the northwestern side where it is attached to Jeffreys Ledge. The name Lower Jeffreys Ledge emphasizes its relationship to Jeffreys Ledge (a major regional feature). Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations

Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: **LOWER STELLWAGEN BANK**

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 27.0'N	70° 31.0'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 30.3'N	70° 30.4'W
S.E. corner	42° 26.3'N	70° 26.4'W
S.W. corner	42° 24.9'N	70° 31.2'W
N.W. corner	42° 27.4'N	70° 35.1'W

DESCRIPTION:

Feature type: Bank

Size and shape: Lower Stellwagen Bank is a relatively flat, subrectangular, northwest-trending feature that extends northwest from Stellwagen Bank, but lies at a greater depth than the surface of Stellwagen Bank. Lower Stellwagen Bank is approximately 5 nm (9.4 km) long and 4 nm (7.5 km) wide. Total area is approximately 17.5 sq nm (61.2 sq km).

Depth (max. and min.): Top of feature 50-55 m; base 65-100 m.

Steepness, etc : Maximum relief of feature is approximately 30-35 m on the southeastern and southwestern flanks. Lower Stellwagen Bank lies 20 m deeper than the surface of Stellwagen Bank.

ASSOCIATED FEATURES: Lower Stellwagen Bank is a northwestward extension of Stellwagen Bank, and it is bounded on the southwest by Stellwagen Basin.

CHART OR MAP REFERENCE:

Feature shown but not named on:

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000. [feature not well defined]

REASON FOR CHOICE OF NAME: Lower Stellwagen Bank is a relatively horizontal feature bounded by steeper descending slopes on all sides except on the southeastern side where it is bounded by a steeper ascending slope to Stellwagen Bank. The feature most resembles a bank because its flanks slope away on all sides except for a small area on the southeastern side where it is attached to Stellwagen Bank. The name Lower Stellwagen Bank emphasizes its relationship to Stellwagen Bank (a major regional feature). Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: *MIDDLE NINETY BANK*

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 13.8'N	70° 03.7'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 15.0'N	70° 02.0'W
S.E. corner	42° 13.0'N	70° 03.1'W
S.W. corner	42° 13.7'N	70° 05.2'W
N.W. corner	42° 14.5'N	70° 04.9'W

DESCRIPTION:

Feature type: Bank

Size and shape: Middle Ninety Bank is a subrectangular feature with a relatively flat top that is approximately 2.5 nm (4.7 km) long and 1.8 nm (3.4 km) wide. Total bank area is approximately 3.4 sq nm (11.8 sq km).

Depth (max. and min.): Top of feature 90 m; base 100-130 m.

Steepness, etc : Maximum relief of feature is approximately 30 m on the southeast flank.

ASSOCIATED FEATURES: Middle Ninety Bank lies just east of Stellwagen Bank. It is situated north of South Ninety Bank and south of both North Ninety Bank and East Ninety Bank. It is part of an assemblage of 4 banks called Ninety Meter Banks (see separate description).

CHART OR MAP REFERENCE:

Feature shown but not named on:

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13260, Bay of Fundy to Cape Cod, 36th edition, scale 1:378,838. [feature not well defined]

REASON FOR CHOICE OF NAME: Middle Ninety Bank is the middle bank of an assemblage of 4 small, well-defined subrectangular banks (the Ninety Meter Banks) that lie just to the east of Stellwagen Bank. Middle Ninety Bank lies north of South Ninety Bank and south of both North Ninety Bank and East Ninety Bank. The 4 banks are separated from each other by valleys of varying depth, and thus their relief is variable. However, their unifying characteristic is the depth to their relatively flat top surfaces. The bank tops all lie at approximately 90 m water depth, a result of their common origin by glacial erosion. The word "meter" is part of the collective name (Ninety Meter Banks) of the 4 features, but it is not included in the names of the individual banks as it would make the name too long and cumbersome.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***NINETY METER BANKS***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:**center point of feature**

Latitude	Longitude
42° 15.5'N	70° 03.5'W

linear feature

	Latitude	Longitude
from	42° 11.0'N	70° 04.0'W
to	42° 18.0'N	70° 04.0'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: An assemblage of 4 banks

Size and shape: Ninety Meter Banks are four subrectangular banks ranging in area from approximately 1.5 sq nm (5.2 km sq) to 3.8 sq nm (13.1 sq km).

Depth (max. and min.): Tops of banks: 85-95 m Bases of banks: 80-170 m

Steepness, etc : Maximum relief of banks ranges from 30 to 85 m

ASSOCIATED FEATURES: The Ninety Meter Banks lie just east of Stellwagen Bank. It is an assemblage of North Ninety Bank, East Ninety Bank, Middle Ninety Bank, and South Ninety Bank (see separate descriptions).

CHART OR MAP REFERENCE:

Feature shown but not named on:

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13260, Bay of Fundy to Cape Cod, 36th edition, scale 1:378,838. [feature not well defined]

REASON FOR CHOICE OF NAME: The Ninety Meter Banks is an assemblage of 4 small, well-defined subrectangular banks that lie just to the east of Stellwagen Bank. They are separated from each other by valleys of varying depth, and their relief is variable. However, their unifying characteristic is the depth to their relatively flat top surfaces. The bank tops all lie at approximately 90 m water depth, a result of their common origin by glacial erosion. Each of the 4 banks in the assemblage is named separately (North Ninety Bank, East Ninety Bank, Middle Ninety Bank, and South Ninety Bank). The name Ninety Meter Banks is a collective term that will facilitate reference to the 4 closely-spaced features.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***NORTH NINETY BANK***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:**center point of feature**

Latitude	Longitude
42° 16.8'N	70° 05.0'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 18.0'N	70° 03.2'W
S.E. corner	42° 16.3'N	70° 03.6'W
S.W. corner	42° 16.1'N	70° 06.1'W
N.W. corner	42° 17.6'N	70° 06.0'W

DESCRIPTION:

Feature type: Bank

Size and shape: North Ninety Bank is a subrectangular feature with a relatively flat top that is approximately 3.2 nm (5.9 km) long and 2.1 nm (3.9 km) wide. Total bank area is approximately 3.8 sq nm (13.1 sq km). It

is separated by a shallow valley from East Ninety Bank.

Depth (max. and min.): Top of feature 90 m; base 100-130 m.

Steepness, etc : Maximum relief of feature is approximately 40 m on the south wall.

ASSOCIATED FEATURES: North Ninety Bank lies between Stellwagen Bank to the west, East Ninety Bank to the east, and Middle Ninety Bank to the south. It is part of an assemblage of banks called Ninety Meter Banks (see separate description).

CHART OR MAP REFERENCE:

Feature shown but not named on:

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13260, Bay of Fundy to Cape Cod, 36th edition, scale 1:378,838. [feature not well defined]

REASON FOR CHOICE OF NAME: North Ninety Bank is the northernmost bank of an assemblage of 4 small, well-defined subrectangular banks (Ninety Meter Banks) that lie just to the east of Stellwagen Bank. They are separated from each other by valleys of varying depth, and thus their relief is variable. However, their unifying characteristic is the depth to their relatively flat top surfaces. The bank tops all lie at approximately 90 m water depth, a result of their common origin by glacial erosion. The word "meter" is part of the collective name of the 4 features, but it is not included in the names of the individual banks as it would make the name too long and cumbersome.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

- Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.
- Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.
- Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***NORTH TILLIES BASIN***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates

center point of feature

Latitude	Longitude
42° 39.1'N	70° 17.5'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 40.7'N	70° 17.2'W
S.E. corner	42° 37.9'N	70° 17.0'W
S. corner	42° 37.5'N	70° 17.8'W
S.W. corner	42° 37.7'N	70° 18.2'W
N.W. corner	42° 40.8'N	70° 17.9'W

DESCRIPTION:

Feature type: Basin

Size and shape: North Tillies Basin is a narrow, northsouth-trending feature that forks into two separately-named basins at its southern end. It is approximately 3.3 nm (6.2 km) long and 0.5-0.7 nm (0.9-1.3 km) wide. Total area is approximately 2.1 sq nm (7.4 sq km).

Depth (max. and min.): Basin depths range from 140 to 155 m.

Steepness, etc : Maximum relief of basin walls is approximately 50-55 m on the eastern and western sides. Maximum local relief of the basin floor is approximately 10-15 m.

ASSOCIATED FEATURES: North Tillies Basin is bounded on the north by First Basin, on the west by Lower Jeffreys Ledge, and on the south by Tillies Bank. In its southern end, North Tillies Basin forks into two major basins, East Tillies Basin and West Tillies Basin.

CHART OR MAP REFERENCE:

Feature shown but not named on:

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000.
National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000
National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000
National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape Ann, 24th edition, scale 1:80,000.

REASON FOR CHOICE OF NAME: Background on the name "**Tillies**."

Tillies Bank is a very prominent feature that is well known by commercial fishermen and marine scientists who work in the region. The name appears on several maps (NOS Chart 13009; NOS Bathymetric Fishing Map, Gloucester sheet), but the name has never been proposed and therefore does not appear in the Gazetteer of Undersea Features. See formalization of the name Tillies Bank in this report.

The name **Tillies Basin** was applied by Uchupi to a feature that does not exist at the described location, and the label on the NOS Bathymetric Fishing Map adds to the confusion about the location of Tillies Basin.

The new multibeam survey (1994-1996) that is the basis for the new feature names proposed at this time clearly shows that there is no large basin at the location (42° 30'N, 70° 20'W; official coordinates for Tillies Basin in the Gazetteer of Undersea Features), where a large basin (Tillies Basin) is shown (but not labeled) on Uchupi's map. The described coordinates actually fall on a feature now named Creed Ridge, a feature not represented on Uchupi's map. See justification in this report for removing the name Tillies Basin.

The new survey shows that Tillies Bank is bounded on the north, east, and west by 3 large, long deep basins. As the name Tillies has been used for many years in this region, it is appropriate to retain it in the 3 newly-named basins that enclose Tillies Bank (North Tillies Basin, East Tillies Basin, and West Tillies Basin).

North Tillies Basin lies between Tillies Bank to the south and First Basin to the north. North Tillies Basin forks at its southern extremity to form the 2 basins (West Tillies Basin and East Tillies Basin) that enclose Tillies Bank. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

Summary of proposed use of the name "Tillies" in this and accompanying documents:

Formalize the name **Tillies Bank**.

Name a new feature **Little Tillies Bank**.

Remove the name **Tillies Basin** (feature does not exist; retention of name will be confusing).

Name three new features **North Tillies Basin**, **East Tillies Basin**, and **West Tillies Basin**.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: **NORTHERN VALLEY**

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 27.8'N	70° 21.5'W

linear feature

	Latitude	Longitude
from	42° 26.2'N	70° 20.5'W
to	42° 29.2'N	70° 22.3'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Valley

Size and shape: Northern Valley is an elongate north northwest-trending feature that widens only slightly from its head in the south to its mouth in the north. It is approximately 3.2 nm (6.0 km) long and 0.3-0.8 nm (0.6-1.5 km) wide. Total area is approximately 1.3 sq nm (4.6 sq km).

Depth (max. and min.): Valley depth ranges from 70 m in the south to 145 m in the north.

Steepness, etc : Maximum relief of the valley walls is 70 m on the southwest side near the valley mouth. Maximum local relief of the valley floor is 5 m.

ASSOCIATED FEATURES: Northern Valley extends northnorthwestward from the northern part of Stellwagen Bank and opens into the southeastern part of Gloucester Basin.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

REASON FOR CHOICE OF NAME: Northern Valley is a prominent valley that extends from the northern margin of Stellwagen Bank northward into the southeastern part of Gloucester Basin. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by

Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***NORTHWEST CORNER***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 24.5'N	70° 27.7'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Bank; in this case, a distinctive part of Stellwagen Bank that extends northwestward; not a spur. The term "corner" is historical local usage.

Size and shape: Northwest Corner is a relatively flat, subrectangular, northwest-trending part of Stellwagen Bank.

Depth (max. and min.): Top of feature 30 m; base 75-80 m.

Steepness, etc : Maximum relief of feature is approximately 45-50 m on the southwestern flank of the bank.

ASSOCIATED FEATURES: Northwest Corner is the northwestern part of Stellwagen Bank. It is bounded on the southwest by Stellwagen Basin and on the north by Lower Stellwagen Bank.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000.

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13267, Massachusetts Bay, 29th edition, scale 1:80,000.

REASON FOR CHOICE OF NAME: Northwest Corner is a distinctive northwest-trending part of Stellwagen Bank. The Northwest Corner is relatively flat and is separated from Stellwagen Basin to the southwest by a scarp of 45-50 m relief. Northwest Corner is bounded to the north by Lower Stellwagen Bank. The name Northwest Corner traditionally is used by local commercial fishermen to refer to this feature. This usage has been confirmed in interviews with the fishermen, especially with Frank Mirarchi of Scituate, Massachusetts who has fished the region for over 20 years. A companion feature, Southwest Corner, is present on the southwestern part of Stellwagen Bank.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane

twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: *PIGEON BASIN*

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 46.7'N	70° 12.2'W

linear feature

	Latitude	Longitude
from (to center point)	42° 45.7'N	70° 11.7'W
from (to center point)	42° 46.8'N	70° 10.7'W
from (to center point)	42° 48.9'N	70° 12.8'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Basin

Size and shape: Pigeon Basin is a compound feature that is formed by both broad and narrow arms that coalesce at a central point. The southeastern arm is approximately 1.0 nm (1.9 km) long and 0.2-0.4 nm (0.4-0.7 km) wide; the eastern arm is approximately 1.0 nm (1.9 km) long and 0.6 nm (1.1 km) wide; the northern arm is approximately 2.2 nm (4.1 km) long and 0.5-0.9 nm (0.9-1.7 km) wide; and the southwestern arm is approximately 1.7 nm (3.2 km) long and 0.3-0.7 nm (0.6-1.3 km) wide. Total area of the feature is approximately 3.4 sq nm (11.8 sq km).

Depth (max. and min.): Basin depths range from 80 to 120 m..

Steepness, etc : Maximum relief of basin walls is approximately 40 m in the southeastern arm and 70 m in the southwestern arm. Maximum local relief of the basin floor is approximately 5 m.

ASSOCIATED FEATURES: Pigeon Basin is bounded on the west and northwest by Jeffreys Ledge and East Pigeon Hill, on the southeast by East Hill, and on the south by Sanctuary Hill.

CHART OR MAP REFERENCE:**Name and feature shown on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000.

REASON FOR CHOICE OF NAME: Pigeon Basin is located just east of 2 prominent hill features (West Pigeon Hill and East Pigeon Hill) on Jeffrey's Ledge. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***POLYGON BANK***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 32.7'N	70° 23.9'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 33.8'N	70° 23.8'W
S.E. corner	42° 33.0'N	70° 22.6'W
S.W. corner	42° 31.6'N	70° 23.0'W
N.W. corner	42° 33.1'N	70° 25.2'W

DESCRIPTION:

Feature type: Bank

Size and shape: Polygon Bank is relatively flat, steep-sided, polygon-shaped feature. The bank displays 6 relatively straight flanks. Polygon Bank is approximately 2 nm (3.7 km) long and 1.5 nm (2.8 km) wide. Total area is approximately 2.5 sq nm (8.8 sq km).

Depth (max. and min.): Top of feature 60-65 m; base 110-140 m.

Steepness, etc : Maximum relief of feature is approximately 65-70 m on the northern flank; but all flanks are relatively steep.

ASSOCIATED FEATURES: Polygon Bank lies east of Polygon Basin.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

REASON FOR CHOICE OF NAME: Polygon Bank has a distinctive outline of many angles formed by 6 straight, steep sides. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: **POLYGON BASIN**

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 34.0'N	70° 25.0'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 34.7'N	70° 24.3'W
E. corner	42° 34.5'N	70° 24.1'W
S.E. corner	42° 33.8'N	70° 23.9'W
S.W. corner	42° 33.1'N	70° 25.1'W
N.W. corner	42° 33.7'N	70° 25.9'W
N. corner	42° 34.5'N	70° 25.3'W

DESCRIPTION:

Feature type: Basin

Size and shape: Polygon Basin is a subrectangular feature surrounded by many banks and basins. It is approximately 1.6 nm (2.9 km) long and 1.3 nm (2.4 km) wide. Total area is approximately 1.2 sq nm (4.2 sq km).

Depth (max. and min.): Basin depths range from 110 to 150 m.

Steepness, etc : Maximum relief of basin walls is approximately 40 m on the southeastern side. Maximum local relief of the basin floor is approximately 20-25 m.

ASSOCIATED FEATURES: Polygon Basin is bounded on the west and north by Thacher Bank and Thacher Basin, on the east and southeast by Creed Basin and Polygon Bank, and on the southwest by Gloucester Basin.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

REASON FOR CHOICE OF NAME: Polygon Basin is a feature that lies below the northwestern flank of Polygon Bank. It is a small basin located at the intersection of Thacher, Creed, and Gloucester Basins. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the

Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 percent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***RACE POINT CHANNEL***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 07.5'N	70° 14.0'W

linear feature

	Latitude	Longitude
from	42° 07.0'N	70° 18.0'W
to	42° 08.0'N	70° 06.0'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Channel

Size and shape: Race Point Channel is a linear feature, trending east-west, that separates the north coast of Cape Cod from the southern extremity of Stellwagen Bank. The channel is approximately 9 nm (16.9 km) in length and approximately 5 nm (9.4 km) in width.

Depth (max. and min.): Channel depths range from 60 m to 45 m.

Steepness, etc : Maximum relief of channel walls is approximately 60 m on the south flank. Maximum local relief of the channel floor is approximately 5-10 m.

ASSOCIATED FEATURES: Race Point Channel is bounded on the south by Cape Cod and on the north by Stellwagen Bank

CHART OR MAP REFERENCE:**Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000.

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000.

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13260, Bay of Fundy to Cape Cod, 36th edition, scale 1:378,838.

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13267, Massachusetts Bay, 29th edition, scale 1:80,000.

REASON FOR CHOICE OF NAME: Race Point Channel is a passage that separates Cape Cod and Stellwagen Bank and connects two bodies of water, Massachusetts Bay (west) and the Gulf of Maine (east). It resembles other similarly-named features in the New England region, namely Great South Channel (separates the western end Georges Bank from Nantucket Shoals) and Northeast Channel (separates Browns Bank from the eastern end of Georges Bank). See NOAA Chart 13009. Race Point Channel is named for Race Point, a prominent land feature located on Cape Cod at the southwestern entrance of the channel. Race Point is a well-established local name, and it is marked by an important light house.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was

mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***THE ROCKPILE***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 21.6'N	70° 27.9'W

linear feature

	Latitude	Longitude
from	42° 21.2'N	70° 26.6'W
to	42° 22.2'N	70° 28.9'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Bank

Size and shape: The Rockpile is a sub-linear, northwest-trending bank that is approximately 2 nm (3.7 km) long and 1.3 nm (2.4 km) wide. Total area is approximately 1.8 sq nm (6.1 sq km).

Depth (max. and min.): Top of feature 60 m; base 80-90 m.

Steepness, etc : Maximum relief of feature is approximately 25-30 m on the southern flank.

ASSOCIATED FEATURES: The Rockpile lies in Stellwagen Basin, south of Northwest Corner of Stellwagen Bank and north of The Breakwater.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

REASON FOR CHOICE OF NAME: The Rockpile is a northwest-trending bank in Stellwagen Basin. The feature displays a sub-linear shape, but its surface has been highly eroded (relative to other banks in Stellwagen Basin) and now is characterized by discrete piles of boulders having relief of 5 to 10 m. The overall character of the feature is that of a pile of rocks. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: **ROSE AND LUCYS BASIN**

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 44.8'N	70° 14.8'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 44.8'N	70° 13.1'W
E. corner	42° 44.4'N	70° 13.9'W
S. corner	42° 43.7'N	70° 14.6'W
W. corner	42° 45.0'N	70° 16.8'W
N. corner	42° 45.9'N	70° 15.8'W
additional corner	42° 44.9'N	70° 13.9'W

DESCRIPTION:

Feature type: Basin

Size and shape: Rose and Lucys Basin is a subrectangular, northwest-trending feature. It is approximately 2.8 nm (5.2 km) long and 1.5 nm (2.8 km) wide. Total area of the feature is approximately 3.6 sq nm (12.4 sq km).

Depth (max. and min.): Basin depths range from 115 to 135 m.

Steepness, etc : Maximum relief of basin walls is approximately 100 m on the northern side. Maximum local relief of the basin floor is approximately 5 m.

ASSOCIATED FEATURES: Rose and Lucys Basin is bounded on the west and north by Jeffreys Ledge and on the northeast by Sanctuary Hill, and it lies just west of Sanctuary Basin.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000.

REASON FOR CHOICE OF NAME: Rose and Lucys Basin is a subrectangular basin located south of Jeffreys Ledge, a major fishing ground. Gloucester fishermen working in the Jeffreys Ledge region traditionally refer to this basin as Rose and Lucys Basin after the name of a fishing vessel that fished in the basin for decades. This usage has been confirmed in interviews with the fishermen, including Andrew Giacalone, Sam Novello, Russel Sherman, and Richard Taylor of Gloucester, Massachusetts.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: **SALVAGES BASIN**

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates: center point of feature

Latitude	Longitude
42° 39.9'N	70° 23.7'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N. corner	42° 41.0'N	70° 32.0'W
E. corner	42° 39.9'N	70° 28.8'W
S.E corner	42° 38.5'N	70° 29.5'W
W. corner	42° 38.4'N	70° 30.8'W
N. corner	42° 40.8'N	70° 32.5'W

DESCRIPTION:

Feature type: Basin

Size and shape: Salvages Basin is a subtriangular feature with a relatively flat floor. It is approximately 2.9 nm (5.4 km) long and 2.0 nm (3.7 km) wide. Total area is approximately 3.5 sq nm (12.2 sq km).

Depth (max. and min.): Basin depths range from 80 to 85 m.

Steepness, etc : Maximum relief of basin walls is approximately 30-35 m on the northeastern and southeastern sides. Maximum local relief of the basin floor is approximately 5 m.

ASSOCIATED FEATURES: Salvages Basin lies just offshore and east of The Salvages, a group of rocky bars and small rocky islands (Little Salvages and Dry Salvages); and west of the southwestern part of Jeffreys Ledge.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape Ann, 24th edition, scale 1:80,000.

REASON FOR CHOICE OF NAME: Salvages Basin lies less than 2 nm offshore and east of a locally well known coastal feature called The Salvages (NOS Chart 13278), a group of rocky bars and small rocky islands (Little Salvages and Dry Salvages). Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: **SANCTUARY BASIN**

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 44.8'N	70° 11.2'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 45.5'N	70° 09.0'W
E. corner	42° 45.1'N	70° 08.8'W
S.E corner	42° 44.2'N	70° 09.1'W
S.W. corner	42° 44.4'N	70° 12.7'W
W. corner	42° 44.8'N	70° 12.6'W
N.W. corner	42° 45.5'N	70° 11.6'W
additional corner	42° 44.8'N	70° 09.2'W
additional corner	42° 44.8'N	70° 10.9'W

DESCRIPTION:

Feature type: Basin

Size and shape: Sanctuary Basin is a subrectangular, generally eastwest-trending feature that is partly divided in its eastern part by a low eastwest-trending ridge. The basin is approximately 2.9 nm (5.4 km) long and 1.5 nm (2.8 km) wide. Total area of the feature is approximately 2.9 sq nm (10.1 sq km).

Depth (max. and min.): Basin depths range from 115 to 130 m.

Steepness, etc : Maximum relief of basin walls is approximately 70-80 m on the northern and northwestern sides. Maximum local relief of the basin floor is approximately 5 m.

ASSOCIATED FEATURES: Sanctuary Basin is bounded on the northwest by Sanctuary Hill, on the north by East Hill, and it lies to the east of Rose and Lucys Basin.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000.

REASON FOR CHOICE OF NAME: Sanctuary Basin is a relatively large feature that is bounded on the northwest by Sanctuary Hill, a prominent feature also named here for the first time. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: **SANCTUARY HILL**

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 45.5'N	70° 13.1'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N. corner	42° 46.2'N	70° 12.7'W
E. corner	42° 45.8'N	70° 11.8'W
S.E corner	42° 44.9'N	70° 12.3'W
S. corner	42° 44.8'N	70° 13.1'W
S.W. corner	42° 44.9'N	70° 13.9'W
W. corner	42° 45.3'N	70° 14.3'W
N.W. corner	42° 46.0'N	70° 13.6'W

DESCRIPTION:

Feature type: Hill

Size and shape: Sanctuary Hill is a large, slightly northeast-trending, conical feature with a pointed summit. It is approximately 2.0 nm (3.7 km) long and 1.4 nm (2.6 km) wide. Total area is approximately 2.2 sq nm (7.7 sq km).

Depth (max. and min.): Top of feature is 35 m; base 130 m.

Steepness, etc : Maximum relief of feature is approximately 95 m on the southwestern flank.

ASSOCIATED FEATURES: Sanctuary Hill is bounded on the north and northwest by Pigeon Basin, on the west and southwest by Rose and Lucys Basin, on the southeast by Sanctuary Basin, and on the east by East Hill.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000.
 National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000. [feature not well defined]
 National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000.
 National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape Ann, 24th edition, scale 1:80,000.

REASON FOR CHOICE OF NAME: Sanctuary Hill is a large, conical, bedrock outcrop with a pointed summit that lies in deep water east of Jeffreys Ledge. It is located in the acute northeastern corner of the Stellwagen Bank National Marine Sanctuary; it is the most prominent positive sea floor feature for many miles and thus serves as a boundary marker for the sanctuary. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was

mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: **SCANTUM SPUR**

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 47.7'N	70° 23.5'W

linear feature

	Latitude	Longitude
from	42° 46.9'N	70° 20.4'W
to	42° 48.6'N	70° 25.7'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Spur

Size and shape: Scantum Spur is an elongate, narrow northwestward-trending feature with an uneven surface. It is approximately 4.2 nm (7.9 km) long and 0.5-0.9 nm (0.9-1.7 km) wide. Total area is approximately 3.3 sq nm (11.6 sq km).

Depth (max. and min.): Top of feature is 75-85 m; base 95-100 m.

Steepness, etc : Maximum relief of feature is approximately 25 m on the southwestern flank.

ASSOCIATED FEATURES: Scantum Spur extends northwestward into Scantum Basin from the northwestern flank of Jeffreys Ledge; and it forms the southwestern bound of The Cove, a subsidiary basin of Scantum Basin.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000.
 National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000
 National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000.
 National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape Ann, 24th edition, scale 1:80,000.

REASON FOR CHOICE OF NAME: Scantum Spur is a subordinate feature that extends northwestward from Jeffreys Ledge into the smooth topography of Scantum Basin, a named feature. The top of the spur is approximately 30 m below the top of Jeffreys Ledge. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane

twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet. **SUBMITTED BY:**

Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***SOUTH NINETY BANK***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 11.7'N	70° 04.1'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 12.9'N	70° 04.1'W
S. E. corner	42° 11.2'N	70° 02.7'W
S.W. corner	42° 10.2'N	70° 04.1'W
N.W. corner	42° 12.7'N	70° 05.9'W

DESCRIPTION:

Feature type: Bank

Size and shape: South Ninety Bank is a subrectangular feature with a relatively flat top that is approximately 2.5 nm (4.7 km) long and 1.6 nm (2.9 km) wide. Total bank area is approximately 3.0 sq nm (10.5 sq km). It is separated by a very shallow depression from the southeastern part of Stellwagen Bank to the west.

Depth (max. and min.): Top of feature 85-90 m; base 80-120 m.

Steepness, etc : Maximum relief of feature is approximately 30 m on the east flank.

ASSOCIATED FEATURES: South Ninety Bank lies south of Middle Ninety Bank from which it is separated by a valley. South Ninety Bank lies just east of southeastern part of Stellwagen Bank. It is part of an assemblage of 4 banks called Ninety Meter Banks (see separate description).

CHART OR MAP REFERENCE:**Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13260, Bay of Fundy to Cape Cod, 36th edition, scale 1:378,838. [feature not well defined]

REASON FOR CHOICE OF NAME: South Ninety Bank is the southernmost bank of an assemblage of 4 small, well-defined subrectangular banks (Ninety Meter Banks) that lie just to the east of Stellwagen Bank. South Ninety Bank lies south of Middle Ninety Bank and east of the southeastern part of Stellwagen Bank. The 4 banks are separated from each other by valleys of varying depth, and thus their relief is variable. However, their unifying characteristic is the depth to their relatively flat top surfaces. The bank tops all lie at approximately 90 m water depth, a result of their common origin by glacial erosion. The word "meter" is part of the collective name (Ninety Meter Banks) of the 4

features, but it is not included in the names of the individual banks as it would make the name too long and cumbersome.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***SOUTHWEST CORNER***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature	Lat.	Long.
Latitude	Longitude	
42° 09.2'N	70° 19.0'W	

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner		
S. E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Bank; in this case, a distinctive part of Stellwagen Bank that extends southwestward; not a spur. The term "corner" is historical local usage.

Size and shape: Southwest Corner is a relatively flat, subrectangular, southwest-trending part of Stellwagen Bank.

Depth (max. and min.): Top of feature 20-25 m; base 50-55 m.

Steepness, etc : Maximum relief of feature is approximately 25-30 m on the southwestern flank of the bank.

ASSOCIATED FEATURES: Southwest Corner is the southwestern part of Stellwagen Bank. It is bounded on the southwest by Stellwagen Basin and on the south by Little Stellwagen Basin.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000.

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13267, Massachusetts Bay, 29th edition, scale 1:80,000.

REASON FOR CHOICE OF NAME: Southwest Corner is a distinctive southwest-trending part of Stellwagen Bank. The Southwest Corner is relatively flat and is separated from Stellwagen Basin and Little Stellwagen Basin by a scarp of 25-30 m relief. The name Southwest Corner traditionally is used by local commercial fishermen to refer to this feature. This usage has been confirmed in interviews with fishermen, especially with Frank Mirarchi of Scituate, Massachusetts who has fished the region for over 20 years. A companion feature, Northwest Corner, is present on the northwestern part of Stellwagen Bank.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***SOUTHWESTERN SPUR***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:**center point of feature**

Latitude	Longitude
42° 15.3'N	70° 25.1'W

linear feature

	Latitude	Longitude
from	42° 13.7'N	70° 22.2'W
to	42° 16.2'N	70° 27.1'W

areal feature

	Latitude	Longitude
N.E. corner		
S. E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Spur

Size and shape: Southwestern Spur is a linear feature that extends northwestward into Stellwagen Basin from Stellwagen Bank. It is 4.5 nm (8.4 km) long and 0.6 nm (1.1 km) wide. Total area is approximately 9.6 sq nm (12.6 sq km).

Depth (max. and min.): Top of feature is 60-65 m; base 75-80 m.

Steepness, etc : Maximum relief of feature is approximately 15 m on the northeastern flank.

ASSOCIATED FEATURES: Southwestern Spur extends northwestward into the southern part of Stellwagen Basin from the southwestern part of Stellwagen Bank.

CHART OR MAP REFERENCE:**Name and feature shown on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. (feature not well defined]
National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000. [feature not well defined]

REASON FOR CHOICE OF NAME: Southwestern Spur is a subordinate feature that extends from the southwestern part of Stellwagen Bank northwestward into the smooth topography of Stellwagen Basin. The top of the spur is approximately 35 m below the top of Stellwagen Bank. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: STENOS BASIN**LOCATION:**

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:**center point of feature**

Latitude	Longitude
42° 29.4'N	70° 27.2'W

linear feature

	Latitude	Longitude
from	42° 27.8'N	70° 27.4'W
to	42° 31.0'N	70° 28.0'W

areal feature

	Latitude	Longitude
N.E. corner		
S. E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Basin

Size and shape: Stenos Basin is a long, narrow, north-trending feature that curves slightly westward at its north and south extremities. It is approximately 3.3 nm (6.2 km) long and 0.2-0.3 nm (0.4-0.6 km) wide. Total area is approximately 1.0 sq nm (3.5 sq km).

Depth (max. and min.): Basin depth ranges from 95 to 120 m.

Steepness, etc : Maximum relief of basin walls is approximately 60 m on the eastern and western sides. Maximum local relief of basin floor is approximately 5 m.

ASSOCIATED FEATURES: Stenos Basin is bounded on the west by Ellipse Bank.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000
 National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

REASON FOR CHOICE OF NAME: Stenos Basin is a very narrow, relatively deep, north-trending basin enclosed on the east and west by steep bank walls. The basin is much longer than it is wide (approximately 11:1). Stenos means narrow in Greek, and the basin is named because of its narrowness. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***THE STONE WALL***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:**center point of feature**

Latitude	Longitude
42° 46.7'N	70° 29.9'W

linear feature

	Latitude	Longitude
from	42° 44.7'N	70° 26.9'W
to	42° 48.0'N	70° 34.2'W

areal feature

	Latitude	Longitude
N.E. corner		
S. E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Ridge

Size and shape: The Stone Wall is an elongate northwest-trending feature with an uneven surface. It narrows from the southeast to the northwest, and culminates in a subcircular hill at its northwestern end. It is approximately 6.5 nm (12.2 km) long and 0.5-1.0 nm (0.9-1.9 km) wide. Total area is approximately 5.4 sq nm (18.9 sq km).

Depth (max. and min.): Top of feature is 55-85 m; base 90-100 m.

Steepness, etc : Maximum relief of the feature is approximately 40 m on the northwestern end.

ASSOCIATED FEATURES: The Stone Wall lies in Scantum Basin, northwest of Jeffreys Ledge and west of Scantum Spur.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000.

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000
National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000. [feature not well defined]
National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape Ann, 24th edition, scale 1:80,000.

REASON FOR CHOICE OF NAME: The Stone Wall is a long, narrow feature that extends northwestward across Scantum Basin, a highly-used fishing ground. Gloucester fishermen working in the basin traditionally refer to this feature as The Stone Wall because it impedes their towing of fishing gear across the basin floor. This usage has been confirmed in interviews with the fishermen, including Andrew Giacalone, Sam Novello, Russel Sherman, and Richard Taylor of Gloucester, Massachusetts.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist
 Organization: U.S. Geological Survey
 Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543
 tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: *THACHER BANK*

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 36.0'N	70° 28.2'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 36.1'N	70° 24.8'W
S. corner	42° 33.8'N	70° 26.3'W
W. corner	42° 36.4'N	70° 31.1'W
N. corner	42° 37.2'N	70° 31.0'W
additional corner	42° 35.4'N	70° 28.2'W

DESCRIPTION:

Feature type: Bank

Size and shape: Thacher Bank is a subtriangular, northwest-trending feature with an uneven, hilly surface. It is approximately 4.8 nm (9.0 km) long and 0.9-2.6 nm (1.7-4.9 km) wide. Total area is approximately 6.3 sq nm (22.1 sq km).

Depth (max. and min.): Top of feature 55-70 m; base 75-130 m.

Steepness, etc : Maximum relief of feature is approximately 45 m on the northeastern flank.

ASSOCIATED FEATURES: Thacher Bank lies southeast of Thacher Island, south of Thacher Basin and north of Gloucester Basin..

CHART OR MAP REFERENCE:

Feature shown but not named on:

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape Ann, 24th edition, scale 1:80,000. [feature not well defined]

REASON FOR CHOICE OF NAME: Thacher Bank lies 2.5 nm (4.7 km) southeast of Thacher Island, a prominent coastal feature named for Antony Thacher who was deeded the island in 1636 after being shipwrecked there in 1635. Thacher Bank is bounded by Thacher Basin to the north. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist
 Organization: U.S. Geological Survey
 Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543
 tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: *THACHER BASIN*

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 36.9'N	70° 26.4'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N. corner	42° 38.5'N	70° 29.5'W
N.E. corner	42° 37.0'N	70° 25.7'W
E. corner	42° 35.5'N	70° 23.6'W
S.E. corner	42° 34.7'N	70° 24.3'W
S. corner	42° 34.5'N	70° 25.3'W
S.W. corner	42° 37.2'N	70° 31.0'W
N.W. corner	42° 38.4'N	70° 31.9'W
additional corner	42° 36.1'N	70° 24.8'W

DESCRIPTION:

Feature type: Basin

Size and shape: Thacher Basin is a sinuous feature; the short, deep part of the basin trends north, and the long, shallowing part trends northwest. The north-trending part is approximately 0.6 nm (1.1 km) long and the northwest-trending part is approximately 2.1 nm (3.9 km) long; the feature is 0.2-0.6 nm (0.4-1.1 km) wide. Total area is approximately 7.5 sq nm (26.2 sq km).

Depth (max. and min.): Basin depths range from 75 to 140 m.

Steepness, etc : Maximum relief of the basin walls is approximately 50-55 m on the northern and northeastern sides. Maximum local relief of the basin floor is approximately 20 m in the southern part.

ASSOCIATED FEATURES: Thacher Basin is bounded on the northwest by Salvages Basin, on the north by Jeffreys Ledge and Lower Jeffreys Ledge, and on the south by Thacher Bank and Polygon Basin.

CHART OR MAP REFERENCE:

Feature shown but not named on:

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape Ann, 24th edition, scale 1:80,000. [feature not well defined]

REASON FOR CHOICE OF NAME: The head of Thacher Basin lies 2.5 nm (4.7 km) east of Thacher Island, a prominent coastal feature named for Antony Thacher who was deeded the island in 1636 after being shipwrecked there in 1635. Thacher Basin is bounded by Thacher Bank on the south. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: *TILLIES BANK*

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 33.7'N	70° 16.7'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N. corner	42° 37.5'N	70° 17.8'W
N.E. corner	42° 36.9'N	70° 16.8'W
E. corner	42° 33.8'N	70° 15.4'W
S.E. corner	42° 30.2'N	70° 14.8'W
S. corner	42° 29.9'N	70° 15.5'W
S.W. corner	42° 31.5'N	70° 17.9'W
N.W. corner	42° 36.8'N	70° 18.8'W

DESCRIPTION:

Feature type: Bank

Size and shape: Tillies Bank is an elongate north-south-trending feature. The surface of the northern part (north of 42° 34'N) is relatively flat with steep flanks; the southern part resembles Creed Ridge (to the west) as its surface is hilly and dissected by small gullies. It is approximately 8.0 nm (15.0 km) long and 0.7-2.0 nm (1.3-3.7 km) wide. Total area is approximately 13.5 sq nm (47.2 sq km).

Depth (max. and min.): Top of feature is 60-90 m; base is 110-180 m.

Steepness, etc : Maximum relief of feature is approximately 100 m on the southwestern flank.

ASSOCIATED FEATURES: Tillies Bank is bounded on the north by North Tillies Basin, on the east by East Tillies Basin, and on the west and southwest by West Tillies Basin.

CHART OR MAP REFERENCE:

Name and feature shown on:

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000.

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000. [feature name only]

Feature shown but not named on:

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. [feature poorly defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape Ann, 24th edition, scale 1:80,000. [northern part of feature only]

REASON FOR CHOICE OF NAME: Tillies Bank is a very prominent feature that is well known by fishermen and marine scientists who work in the region. The name appears on several maps (NOS Chart 13009; NOS Bathymetric Fishing Map, Gloucester sheet), but the name until now has never been proposed and therefore does not appear in the Gazetteer of Undersea Features. The name Tillies Bank is formalized in this report.

Summary of proposed use of the name "Tillies" in this and accompanying documents:

Formalize the name **Tillies Bank**.

Name a new feature **Little Tillies Bank**.

Remove the name **Tillies Basin** (feature does not exist; retention of name will be confusing).

Name three new features **North Tillies Basin, East Tillies Basin, and West Tillies Basin**.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME REMOVED: *TILLIES BASIN*

The original description (1965) of the feature included the location given below; no other data provided.

LOCATION:

Ocean or sea: Atlantic Ocean

Coordinates:

center point of feature

Latitude	Longitude
42° 30.0'N	70° 20.0'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Basin
Size and shape:
Depth (max. and min.):
Steepness, etc :

ASSOCIATED FEATURES:**CHART OR MAP REFERENCE:**

The name Tillies Basin was proposed and approved in 1965 for a feature on Uchupi's northern sheet (1965, reprinted 1975) that was not labeled by that author so as to avoid obscuring contour lines. Subsequently, the name Tillies Basin appeared on the NOS Bathymetric Fishing Map, Gloucester sheet, 1986.

Name and feature shown on:

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

Feature shown but not named on:

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. [a feature shown on map, but does not exist]

REASON FOR REMOVAL OF NAME: After reading the correspondence related to the naming of Tillies Basin, I have concluded that the name was used for a large basin on Uchupi's map that does not exist. The basin is shown on Uchupi's map south of a large bank (that probably was correctly identified as Tillies Bank from nautical charts available in 1965). Neither feature is labeled on Uchupi's map. The center of the basin plots at 42° 30'N, 70° 20'W on Uchupi's map.

Both Tillies Bank and Tillies Basin are labeled on the NOS Bathymetric Fishing Map, Gloucester sheet (1986). It is probable that the compilers of the NOS map used the name and location of Tillies Basin as given in the Gazetteer of Undersea Features, but the map does not show a basin near 42° 30'N, 70° 20'W that approaches the size of the basin shown on Uchupi's map.

It is clear that the name Tillies Basin was applied by Uchupi to a feature that does not exist at the described location, and that the label on the NOS map adds to the confusion about the location of Tillies Basin.

The new multibeam survey (1994-1996) that is the basis for the new feature names described here clearly shows that there is no large basin at the location 42° 30'N, 70° 20'W, where Tillies Basin is shown on Uchupi's map. These coordinates actually fall on Creed Ridge (newly named in these documents), a feature not represented on Uchupi's map. The new survey shows that Tillies Bank is surrounded by 3 large deep basins. It is appropriate for these basins to use the name Tillies in some way, in reference to Tillies Bank, as was the original intention of Uchupi.

The name Tillies Basin is removed and will not be revised or applied to an existing unnamed basin in the region. Instead, the three basins that surround Tillies Bank are designated North Tillies Basin, West Tillies Basin, and

East Tillies Basin. These features are described fully elsewhere in this report.

Summary of proposed use of the name "Tillies" in this and accompanying documents:

Formalize the name **Tillies Bank**.

Name a new feature **Little Tillies Bank**.

Remove the name **Tillies Basin** (feature does not exist; retention of name will be confusing).

Name three new features **North Tillies Basin**, **East Tillies Basin**, and **West Tillies Basin**.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: **TRIPLE VALLEY**

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 30.9'N	70° 09.2'W

linear feature

	Latitude	Longitude
from (to center point)	42° 27.9'N	70° 09.8'W
from (to center point)	42° 31.5'N	70° 07.0'W
from (to center point)	42° 32.4'N	70° 12.0'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Valley

Size and shape: Triple Valley is a compound feature formed by 3 elongate valleys that coalesce at a central point. The southern arm is approximately 3.0 nm (5.6 km) long and 0.6-0.8 nm (1.1-1.5 km) wide; the northeastern arm is approximately 1.7 nm (3.2 km) long and 0.5-1.5 nm (0.9-2.8 km) wide; and the northwestern arm is approximately 2.6 nm (4.9 km) long and 0.3-0.8 nm (0.6-1.5 km) wide. Total area of the feature is approximately 4.7 sq nm (16.4 sq km).

Depth (max. and min.): Valley depths range from 105 to 115 m.

Steepness, etc : Maximum relief of valley walls is approximately 25-30 m. Maximum local relief of the valley floor is approximately 15 m.

ASSOCIATED FEATURES: Triple Valley is located southeast of Y Valley and east of the southern part of East Tillies Basin.

CHART OR MAP REFERENCE:

Feature shown but not named on:

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000.

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000.

REASON FOR CHOICE OF NAME: Triple Valley is a compound feature formed by 3 valleys (formerly 3 glacial valleys) that coalesce at a central point from the northwest, the northeast, and the south. The name of the feature is based on its compound nature. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist
 Organization: U.S. Geological Survey
 Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543
 tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: WEST BREAKWATER BANK

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 20.2'N	70° 29.4'W

linear feature

	Latitude	Longitude
from	42° 19.7'N	70° 28.3'W
to	42° 20.7'N	70° 30.6'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Bank

Size and shape: West Breakwater Bank is a linear, northwest-trending feature that is approximately 2 nm (3.7 km) long and 0.6 nm (1.1 km) wide. Total area is approximately 1.25 sq nm (4.4 sq km).

Depth (max. and min.): Top of feature 65-70 m; base 85-95 m.

Steepness, etc : Maximum relief of feature is approximately 20 m on the northeastern and southwestern flanks.

ASSOCIATED FEATURES: West Breakwater Bank lies in Stellwagen Basin, just to the northwest of East Breakwater Bank and east of Compass Rose Bank. It is the western part of a pair of banks that collectively are called The Breakwater (see separate description).

CHART OR MAP REFERENCE:

Feature shown but not named on:

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

REASON FOR CHOICE OF NAME: West Breakwater Bank is a linear, northwest-trending bank in Stellwagen Basin. It is located 0.2 nm (0.4 km) northwest of East Breakwater Bank. Both features are similarly aligned, and possibly were connected at one time. West Breakwater Bank and East Breakwater Bank collectively are called The Breakwater by local commercial fishermen. This usage has been confirmed in interviews with the fishermen, especially with Frank Mirarchi of Scituate, Massachusetts who has fished the region for over 20 years. As The Breakwater is actually 2 separate features, they have been given separate names here, and the name The Breakwater refers to a group of 2 features.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: ***WEST PIGEON HILL***

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature	Lat.	Long.
Latitude	Longitude	
42° 46.4'N	70° 15.1'W	

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 46.6'N	70° 15.0'W
S.E. corner		
S.W. corner	42° 46.3'N	70° 15.2'W
N.W. corner		

DESCRIPTION:

Feature type: Hill

Size and shape: West Pigeon Hill is a small conical, northeast-trending feature. It is approximately 0.3 nm (0.6 km) long and 0.2 nm (0.4 km) wide. Total area is approximately 0.06 sq nm (0.2 sq km).

Depth (max. and min.): Top of feature is 40 m; base 50 m.

Steepness, etc : Maximum relief of feature is approximately 10 m.

ASSOCIATED FEATURES: West Pigeon Hill lies on the eastern side of Jeffreys Ledge, just west of East Pigeon Hill.

CHART OR MAP REFERENCE:

Feature shown but not named on:

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map,

Gloucester sheet, scale 1:100,000.

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape Ann, 24th edition, scale 1:80,000. [feature not well defined]

REASON FOR CHOICE OF NAME: West Pigeon Hill is a small but prominent bedrock outcrop that protrudes from the relatively flat sandy surface of Jeffreys Ledge. The hill lies just west of East Pigeon Hill, a well-known twin feature of similar characteristics. See section on East Pidgeon Hill in this report. Interviews with local commercial fishermen failed to identify an appropriate name for the feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543
tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: *WEST TILLIES BASIN*

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 33.1'N	70° 18.9'W

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N. corner	42° 37.7'N	70° 18.2'W
N.E. corner	42° 37.5'N	70° 17.8'W
E. corner	42° 39.1'N	70° 17.5'W
S.E. corner	42° 31.5'N	70° 17.9'W
S. corner	42° 28.3'N	70° 16.2'W
S.W. corner	42° 31.7'N	70° 19.6'W
N.W. corner	42° 36.7'N	70° 17.9'W
additional corner	42° 36.8'N	70° 18.8'W
additional corner	42° 30.1'N	70° 17.2'W

DESCRIPTION:

Feature type: Basin

Size and shape: West Tillies Basin is an elongate, curving feature. The narrow northern part trends to the northeast; the relatively wider middle part trends approximately north and south, but bends toward the southeast and opens into the subrectangular southern part of the basin. It is approximately 10.0 nm (18.7 km) long and 0.3-1.2 nm (0.6-2.2 km) wide. Total area is approximately 8.1 sq nm (28.4 sq km).

Depth (max. and min.): Basin depths range from 100 to 195 m.

Steepness, etc : Maximum relief of basin walls is approximately 100-105 m on the eastern and western sides. Maximum local relief of the basin floor is approximately 30 m, excluding a small bank in the central part of the basin that has a relief of 55 m.

ASSOCIATED FEATURES: West Tillies Basin is bounded on the north by North Tillies Basin, on the east by Tillies Bank, and on the west by Lower Jeffreys Ledge, Creed Ridge, and Little Tillies Bank.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000. [feature not well defined]

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1998, Chart 13278, Portsmouth to Cape Ann, 24th edition, scale 1:80,000. [northern part of feature only]

REASON FOR CHOICE OF NAME: Background on the name "**Tillies**."

Tillies Bank is a very prominent feature that is well known by commercial fishermen and marine scientists who work in the region. The name appears on several maps (NOS Chart 13009; NOS Bathymetric Fishing Map, Gloucester sheet), but the name has never been proposed and therefore does not appear in the Gazetteer of Undersea Features. See formalization of the name Tillies Bank in this report.

The name **Tillies Basin** was applied by Uchupi to a feature that does not exist at the described location, and the label on the NOS Bathymetric Fishing Map adds to the confusion about the location of Tillies Basin.

The new multibeam survey (1994-1996) that is the basis for the new feature names proposed at this time clearly shows that there is no large basin at the location (42° 30'N, 70° 20'W; official coordinates for Tillies Basin in the Gazetteer of Undersea Features), where a large basin (Tillies Basin) is shown (but not labeled) on Uchupi's map. The described coordinates actually fall on a feature now named Creed Ridge, a feature not represented on Uchupi's map. See justification in this report for removing the name Tillies Basin.

The new survey shows that Tillies Bank is bounded on the north, east, and west by 3 large, long deep basins. As the name Tillies has been used for many years in this region, it is appropriate to retain it in the 3 newly-named basins that enclose Tillies Bank (North Tillies Basin, East Tillies Basin, and West Tillies Basin).

West Tillies Basin bounds the west side of Tillies Bank and is the west fork of North Tillies Basin. Interviews with local commercial fishermen failed to identify an appropriate name for this feature

Summary of proposed use of the name "Tillies" in this and accompanying documents:

Formalize the name **Tillies Bank**.

Name a new feature **Little Tillies Bank**.

Remove the name **Tillies Basin** (feature does not exist; retention of name will be confusing).

Name three new features **North Tillies Basin**, **East Tillies Basin**, and **West Tillies Basin**.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: **WESTERN EDGE**

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 21.0'N	70° 21.5'W

linear feature

	Latitude	Longitude
from	42° 19.3'N	70° 20.3'W
to	42° 21.9'N	70° 21.8'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Scarp

Size and shape: Western Edge is a steep, linear, north- and northwest-trending feature that separates the western edge of Stellwagen Bank from Stellwagen Basin. It is approximately 3.2 nm (6.0 km) long and 0.2 nm (0.4 km) wide.

Depth (max. and min.): Top of feature 30 m; base 75-80 m.

Steepness, etc : Maximum relief of feature is approximately 45 m along the northwest-trending part of the feature.

ASSOCIATED FEATURES: Western Edge extends for 3.2 nm (6.0 km) along the western margin of Stellwagen Bank just north of Western Spur. It separates Stellwagen Bank from Stellwagen Basin .

CHART OR MAP REFERENCE:**Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000.

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000.

REASON FOR CHOICE OF NAME: Western Edge is a steep linear scarp that defines the western margin of Stellwagen Bank for a distance of 3.2 nm (6.0 km) north of Western Spur. Western Edge separates Stellwagen Basin from Stellwagen Bank. The name Western Edge traditionally is used by local commercial fishermen to refer to this feature. This usage has been confirmed in interviews with the fishermen, especially with Frank Mirarchi of Scituate, Massachusetts who has fished the region for over 20 years.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: **WESTERN SPUR**

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature	Lat.	Long.
Latitude	Longitude	
42° 18.9'N	70° 21.5'W	

linear feature

	Latitude	Longitude
from		
to		

areal feature

	Latitude	Longitude
N.E. corner	42° 19.3'N	70° 20.3'W
S.E. corner	42° 17.9'N	70° 20.9'W
S.W. corner	42° 18.3'N	70° 21.9'W
N.W. corner	42° 19.4'N	70° 22.5'W

DESCRIPTION:

Feature type: Spur

Size and shape: Western Spur is a subrectangular feature that extends westward into Stellwagen Basin from Stellwagen Bank. It is approximately 1.6 nm (2.9 km) long and 1.3 nm (2.4 km) wide. Total area is approximately 1.75 sq nm (6.1 sq km).

Depth (max. and min.): Top of feature 60-65 m; base 85-100 m.

Steepness, etc : Maximum relief of feature is approximately 25-35 m on the northern and western flanks.

ASSOCIATED FEATURES: Western Spur extends westward into Stellwagen Basin from the western part of Stellwagen Bank.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

Uchupi, Elazar, 1975, Map showing relation of land and submarine topography, Nova Scotia to New Jersey: U.S.

Geological Survey Miscellaneous Geologic Investigations, Map I-451, sheet 3, scale 1:100,000.

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Provincetown sheet, scale 1:100,000

National Ocean Service, National Oceanic and Atmospheric Administration, 1996, Chart 13009, Gulf of Maine and Georges Bank, 27th edition, scale 1:500,000.

REASON FOR CHOICE OF NAME: Western Spur is a subrectangular feature that extends from the western part of Stellwagen Bank westward into the smooth topography of Stellwagen Basin. The top of the spur is approximately 30 m below the top of Stellwagen Bank. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

Date: 1994-1996

Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

Publications where the new geographic names will appear for the first time:

Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.

Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

SUBMITTED BY: Page C. Valentine

Title: Geologist

Organization: U.S. Geological Survey

Address: Woods Hole Field Center, 384 Woods Hole Road, Woods Hole, MA 02543

tel 508-457-2239 fax 508-457-2310 email pvalentine@usgs.gov

FEATURE NAME: **Y VALLEY**

LOCATION:

Ocean or sea: Northwest Atlantic Ocean, Gulf of Maine region

Coordinates:

center point of feature

Latitude	Longitude
42° 32.7'N	70° 13.6'W

linear feature

	Latitude	Longitude
from	42° 32.3'N	70° 14.5'W
to	42° 33.1'N	70° 13.1'W
to	42° 32.6'N	70° 11.9'W
to	42° 33.8'N	70° 13.0'W
to	42° 34.2'N	70° 12.2'W

areal feature

	Latitude	Longitude
N.E. corner		
S.E. corner		
S.W. corner		
N.W. corner		

DESCRIPTION:

Feature type: Valley

Size and shape: Y Valley is a narrow, northeastward-trending feature that bifurcates toward the north and toward the southeast. It is approximately 3.6 nm (6.7 km) long (including both branches) and 0.3-0.5 nm (0.6-0.9 km) wide. Total area is approximately 2.75 sq nm (9.6 sq km).

Depth (max. and min.): Valley depth ranges from 110 to 135 m.

Steepness, etc : Maximum relief of valley walls is approximately 50-55 m. Maximum local relief of valley floor is 5 m.

ASSOCIATED FEATURES: Y Valley opens southwestward into East Tillies Basin.

CHART OR MAP REFERENCE:**Feature shown but not named on:**

National Ocean Service, National Oceanic and Atmospheric Administration, 1986, Bathymetric Fishing Map, Gloucester sheet, scale 1:100,000.

REASON FOR CHOICE OF NAME: Y Valley is a prominent valley that cuts the eastern wall of East Tillies Basin. The valley floor bifurcates into two valley heads, one extending northward and one extending southeastward. The name of the feature is based on its distinctive Y shape. Interviews with local commercial fishermen failed to identify an appropriate name for this feature.

DISCOVERY FACTS: The Stellwagen Bank National Marine Sanctuary region was surveyed on four cruises from the fall of 1994 to the fall of 1996. The survey was a collaborative effort of the U.S. Geological Survey and the National Oceanic and Atmospheric Administration with support from the University of New Brunswick Ocean Mapping Group and the Canadian Hydrographic Service. The survey ship was the *Frederick G. Creed*, a SWATH (small waterplane

twin hull) vessel 65 feet in length and fitted with a hull-mounted Kongsberg Simrad EM 1000 multibeam echosounder. Resolution of the multibeam mapping system is 10 meters horizontally and 20 centimeters vertically. Navigation was by Differential GPS with a horizontal accuracy of 10 m or better. An area of approximately 1100 square nautical miles was mapped. The corner points of the rectangular survey area are:

Northeast corner: 42° 48'N, 70° 02'W Southwest corner: 42° 05'N, 70° 36'W

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Discoverer (individual, ship): Page Valentine and the USGS and CHS mapping teams onboard the Canadian Hydrographic Service vessel *Frederick G. Creed*.

Equipment or instruments used: Kongsberg Simrad EM1000 multibeam echosounder

Navigation used: Differential GPS

Horizontal accuracy: 10 meters or better

Spacing of tracks, crossings, etc: The multibeam survey covered 100 per cent of the sea bottom in the area surveyed (coordinates listed above).

SUPPORTING MATERIAL:

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- Valentine, Page C., Baker, Jessica L., and Unger, Tanya, S., 2001, Sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-A, scale 1:60,000, 1 sheet.
- Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-B, scale 1:60,000, 1 sheet.
- Valentine, Page C., Unger, Tanya, S., and Baker, Jessica L., 2001, Sun-illuminated sea floor topography and backscatter intensity of the Stellwagen Bank National Marine Sanctuary off Boston, Massachusetts: U.S. Geological Survey Geologic Investigations Series, Map I-2676-C, scale 1:60,000, 1 sheet.

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