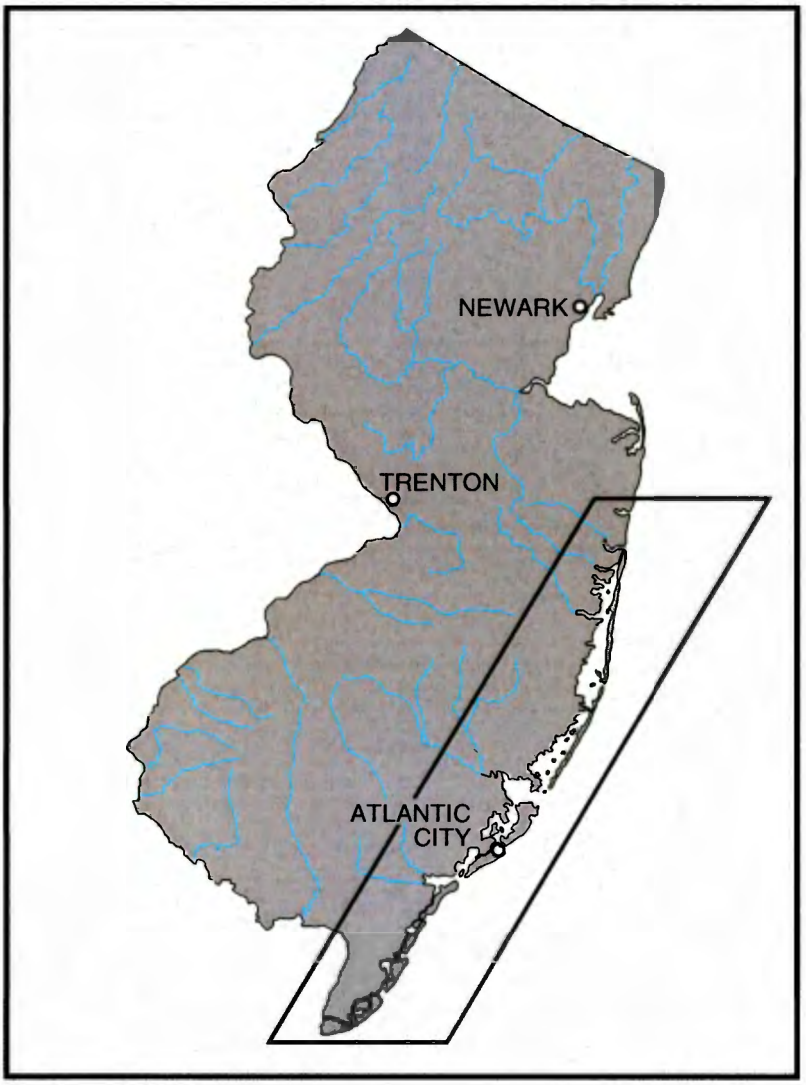
Tidal Inlet Protection Strategies for Oil-Spill Response

Coast of New Jersey
Shark River Inlet to Cape May Inlet



BASED ON RESEARCH SUPPORTED BY
New Jersey Department of Environmental Protection

GIS

LARRY THOMPSON
3-8144

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Based on research supported by
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December 1997

Prepared by Miles O. Hayes and Todd M. Montello, Research Planning, Inc.

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ACKNOWLEDGMENTS

The New Jersey Department of Environmental Protection (NJDEP), with Stan Delikat as contract monitor, are acknowledged for supporting this project. Robert J. Schrader, of the NJDEP, made all logistical arrangements and contributed significantly to the field work. The NJDEP Geographic Information System (GIS) department is acknowledged for providing digital data as shoreline, digital imagery, etc. All of the protection strategies presented in this document were arrived at collectively by a field team consisting of the authors, Rob Schrader and Michael F. Solecki of the Environmental Protection Agency, Cari Savarese and Philip G. Hamrick of the U.S. Coast Guard, Bill Andrews, Dave Jenkins, and Jeff Nourmant of the New Jersey Department of Fish, Game, and Wildlife, Karen Salomon of the U.S. Fish and Wildlife Service, and representatives of spill response contractors (Patrick McGovern and Joe Causton, CVCC; Robert C. Grimm and Captain Frank J. Simonson, National Response Corporation [NRC]; John Lane, S&D; Frederick A. Viéra, Marine Spill Response Corporation; Robert Springer, CMC-New Jersey Public Works; and Francis McCall, CMC-EMCC). Ed Levine, NOAA Scientific Support Coordinator, also assisted with the entire field exercise. Other local experts and relevant government representatives also participated in the development of the strategies for the inlets in their respective areas.

At RPI, Dot Zaino and Joe Holmes are acknowledged for sharing the responsibility of producing the final product.

INTRODUCTION

The coastal inlets of New Jersey are the focal points for designing strategies to protect the vital resources of the state's estuaries and bays, because it is through these conduits that oil spilled on open ocean waters could reach the resources. Therefore, this project was commissioned by the New Jersey Department of Environmental Protection (NJDEP) to develop potential protection strategies for each inlet occurring along the Atlantic coast of the state (Figures 1 and 2). The discussion of each inlet in this report alludes to the range of conditions that might occur at the inlet; however, the proposed protection strategies are based on our best professional judgment of what would work under average wave and tide conditions. The diagrams that accompany the proposed protection strategies are schematic representations of boom placement, collection points, anchor points, and skimmer locations. The symbols used to depict booms are not shown to true scale. The actual length of boom segments will be determined by local conditions at the time of the spill. The proposed strategies should not be interpreted as the only workable protection scheme. Each spill will be time, place, and circumstance specific. Therefore, the strategy finally used to protect the inlet will have to be chosen at the time of the spill.

A total of 13 inlets, located on Figure 2, are treated in this report. The inlets discussed occur in Cape May, Atlantic, Ocean, and Monmouth counties.

The field study of the inlets on the New Jersey coast was carried out between 26 and 29 August 1997. On 26 August, Hayes and Montello of RPI conducted an overflight of all the inlets at low spring tide and numerous oblique color aerial photographs were taken at each inlet from altitudes of 800 to 1,500 feet. These photographs supplemented low-tide vertical color photographs that had been purchased earlier by the State of New Jersey.

The booming strategies and other data sets were produced digitally and are being distributed to the NJDEP as ArcView 3.0 compatible files. These data use the same projection parameters as specified by NJDEP and correspond with the orthophoto quarter quads. A single data layer and associated symbol tables allow the user to pan and zoom along the coast and/or select features by inlet name and/or feature type.

The proposed protection strategies emphasize flood-tidal conditions, because the basic assumption is that the strategy be designed to deal with spilled oil coming to the inlet from the open ocean. These proposed potential strategies are based on the infor

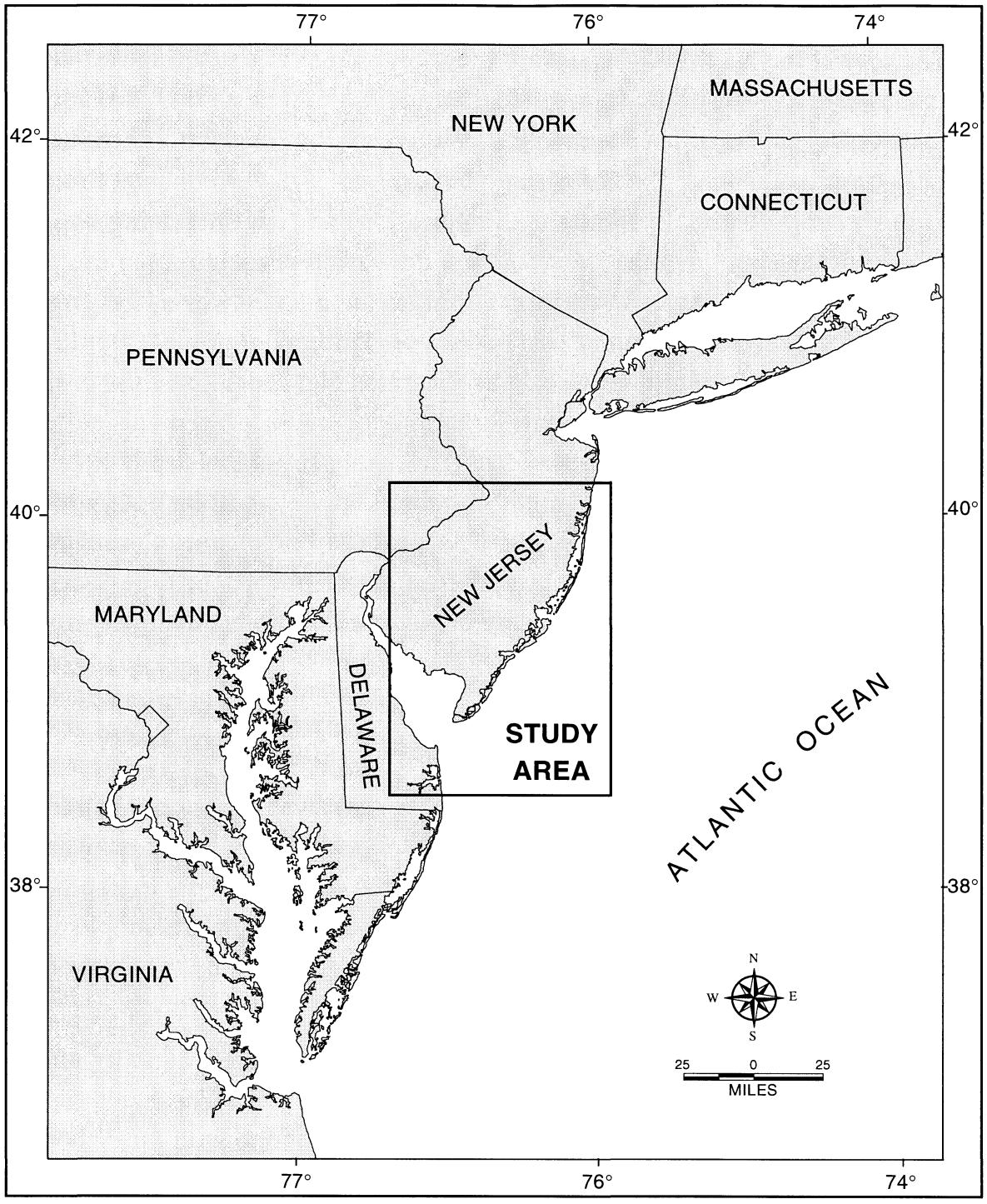


FIGURE 1. Area covered in this volume—the Atlantic coast of New Jersey.

mation at hand on waves and tidal currents. Where such data are missing, inferences based on the geomorphology were used. Many inlets require site-specific surveys in order to finalize (in detail) the proposed protection strategies. Where needed, suggestions for data acquisition are included on the inlet summary sheets.

The following elements are included in the discussion of all of the individual inlets:

- Inlet summary sheet, which includes ranking (based on degree of difficulty of protection), brief summaries of principal resources at risk, potential protection strategies, geomorphology, resources required, priority of deployment, and other comments.

- Color reproduction of USGS topographic maps (1:24,000) showing inlet location.

- Vertical aerial photograph of the inlet, as well as at least one supplementary oblique color aerial photograph.

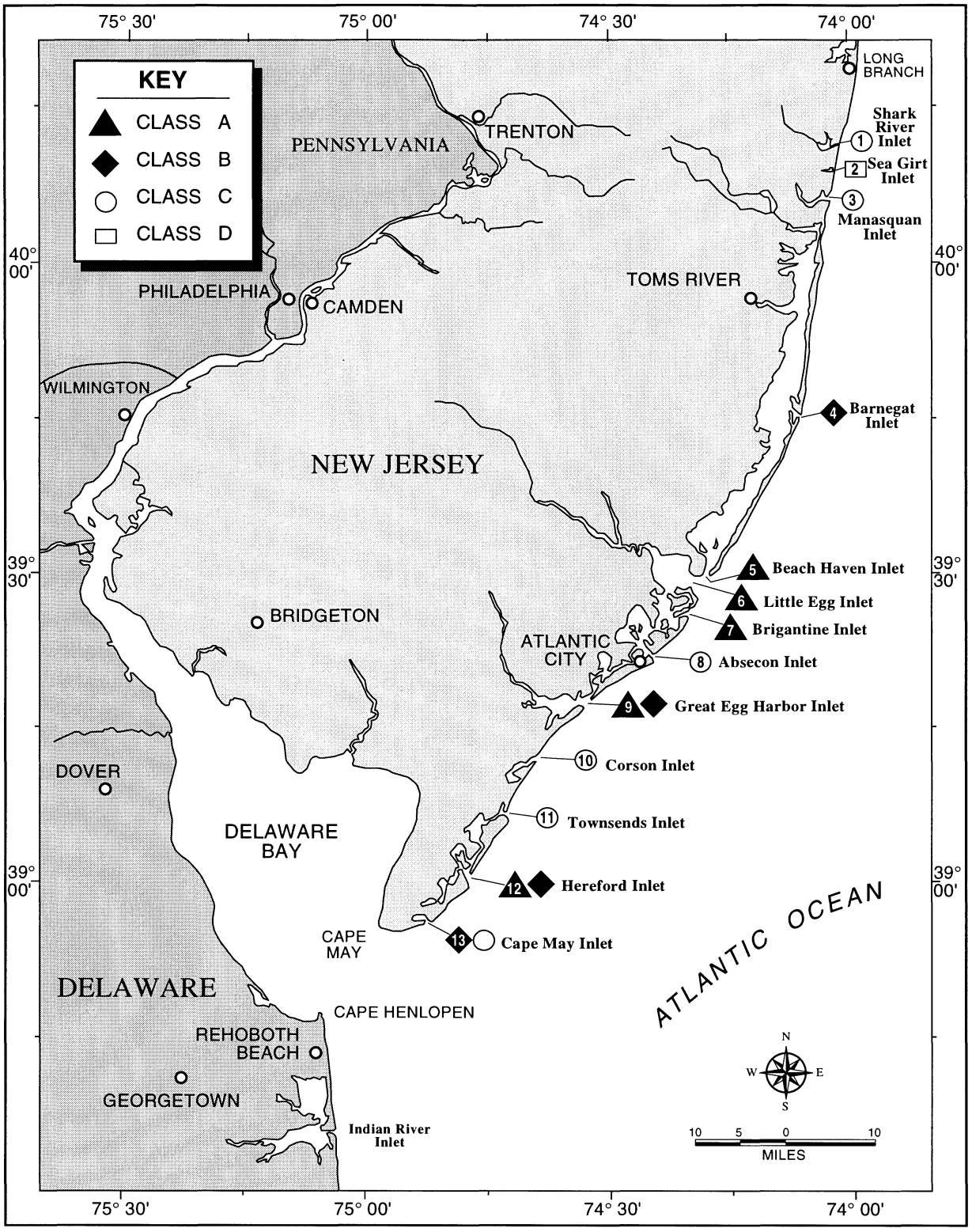
- Field sketch of inlet (in plan view) with relevant morphological/ sedimentological information, upon which a potential protection strategy (for flood conditions) is printed in color.

- Collection point summary sheet, which includes a detailed description of the collection points and possible staging areas and comments concerning the type of equipment to be used at each collection site. (The National Response Corporation [NRC] also provided detailed information concerning response resources.)

INLET NUMBER/NAME		CLASS*	INLET NUMBER/NAME		CLASS*
1.	Shark River Inlet	C	8.	Absecon Inlet	C
2.	Sea Girt Inlet	D	9.	Great Egg Harbor Inlet	A/B
3.	Manasquan Inlet	C	10.	Corson Inlet	C
4.	Barnegat Inlet	B	11.	Townsends Inlet	C
5.	Beach Haven Inlet	A	12.	Hereford Inlet	A/B
6.	Little Egg Inlet	A	13.	Cape May Inlet	B/C
7.	Brigantine Inlet	A			

* See Table 2 for ranking scale.

FIGURE 2. (Above) Inlets located on facing page map.
(Facing Page) Inlets occurring along the Atlantic coast of New Jersey.


KEY
CLASS A
CLASS B
CLASS C
CLASS D
75° 30'
75° 00'
74° 30'
74° 00'
40° 00'
39° 30'
39° 00'
LONG BRANCH
TRENTON
PENNSYLVANIA
Shark River Inlet
Sea Girt Inlet
Manasquan Inlet
PHILADELPHIA
CAMDEN
TOMS RIVER
WILMINGTON
Barnegat Inlet
NEW JERSEY
Beach Haven Inlet
Little Egg Inlet
Brigantine Inlet
BRIDGETON
ATLANTIC CITY
Absecon Inlet
Great Egg Harbor Inlet
DOVER
Corson Inlet
Townsends Inlet
DELAWARE BAY
Hereford Inlet
CAPE MAY
Cape May Inlet
ATLANTIC OCEAN
DELAWARE
CAPE HENLOPEN
REHOBOTH BEACH
GEORGETOWN
Indian River Inlet
N
W
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10 5 0 10
MILES

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TIDAL INLETS—GENERAL

Origin

In the classic sense, tidal inlets are channels that divide barrier islands into segments. They are subject to reversing tidal currents, and are conduits for the volume of water that flows in and out of the bay/estuarine system landward of the inlet during a tidal cycle, called the tidal prism. Tidal inlets on the sandy coastal plains of the eastern USA are usually formed by either of two mechanisms: (1) storm-generated scour channels (resulting inlets are usually shallow and prone to rapid migration); and (2) closure of estuarine entrances by growth of sand spits (resulting inlets usually deep and fixed in place).

Morphology

As shown in Figure 3, a typical tidal inlet in a barrier island setting consists of a deep channel between the adjacent sand spits, called the inlet throat, and lobate-shaped sand bodies on either side of the inlet, called tidal deltas. The sand deposit on the landward side of the inlet, the flood-tidal delta, is typically composed of sheet-like lobes of sand with seaward-sloping ramps on their seaward sides covered by landward migrating waves of sand. The flood-tidal delta of Barnegat Inlet is illustrated by the oblique aerial photograph in Figure 4B. The sand deposit on the seaward side of the inlet, the ebb-tidal delta, is built seaward by ebb-tidal currents, but waves mold the outer margins into an arcuate shape and build landward migrating intertidal bars (swash bars) on the delta surface. The tidal flow on the ebb-tidal delta is horizontally segregated, with the main ebb channel, which usually projects perpendicular to shore off the inlet throat, being dominated by ebb-tidal currents. Shallower, flood-dominant channels (marginal flood channels) flank both sides of the ebb-tidal delta (see Figure 3). The marginal flood channels are important in oil-spill response because the first waters to enter the inlet during the rising tide flow down these channels, even as residual ebb-tidal currents are flowing out the main ebb channel. This allows for a period of time (one hour or so) when any oil heading landward would be moving only down the marginal flood channels, during which time it could possibly be diverted to the adjacent sand beach, rather than allowing it to enter the inlet and the highly sensitive bay/estuary behind it. The ebb-tidal delta of Corson Inlet is illustrated by the photograph in Figure 4A.

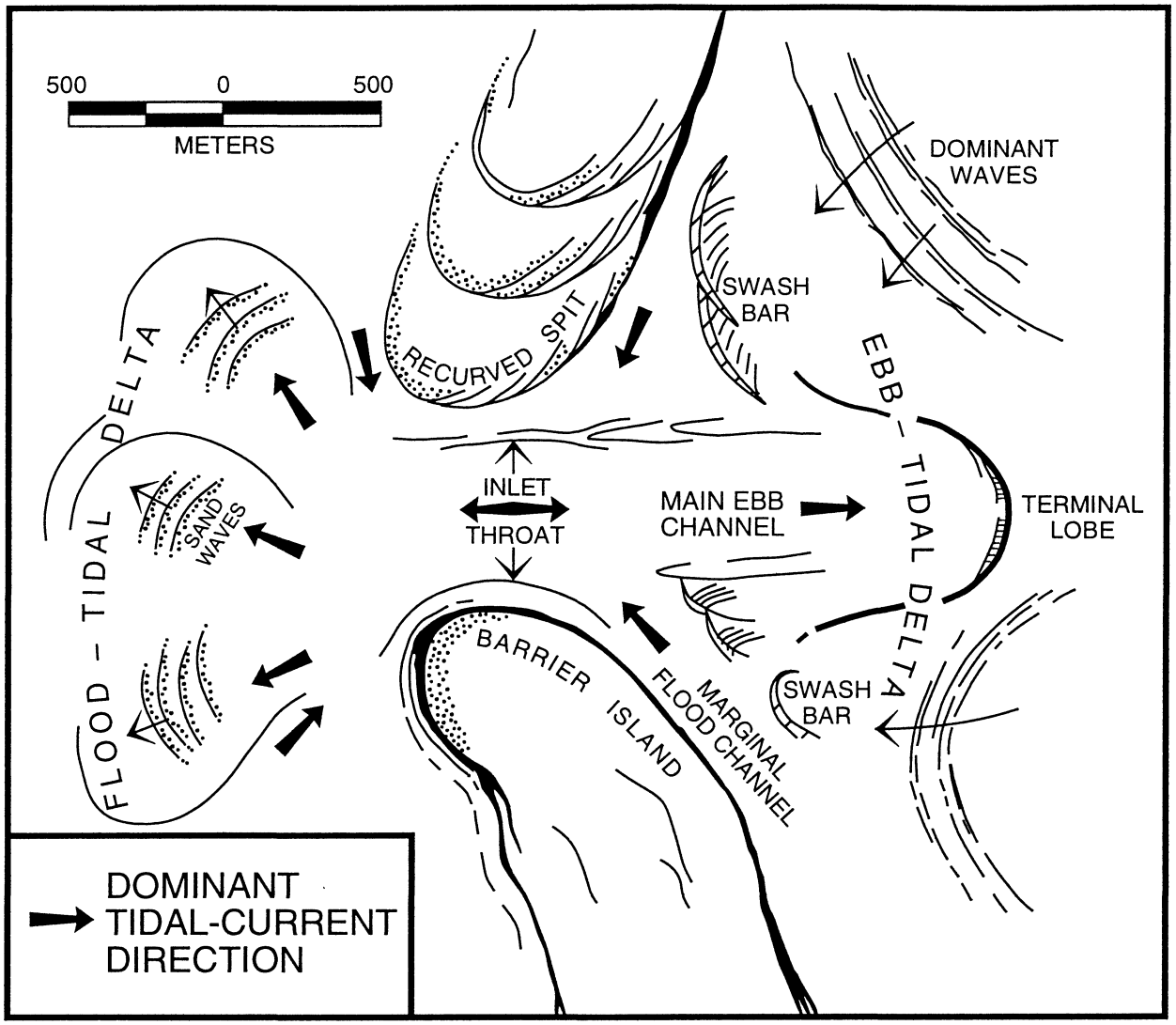

FIGURE 3. General model showing the morphological components of a typical tidal inlet.

FIGURE 4. New Jersey tidal deltas. Compare with diagram in Figure 3. Photographs taken at low tide on 26 August 1997.

A. Ebb-tidal delta at Corson Inlet, looking southeast.

B. Flood-tidal delta at Barnegat Inlet, looking south.

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TIDAL INLETS—ATLANTIC COAST OF NEW JERSEY

Of the thirteen tidal inlets on the Atlantic coast of New Jersey, five are confined by a set of two jetties. These inlets are—Shark River, Manasquan, Barnegat, Absecon, and Cape May. Three of the inlets, Great Egg Harbor, Townsends, and Hereford, have groins or other man-made shore protection structures (seawalls, riprap, etc.) along at least one shoreline of the inlet. Four of the inlets, Beach Haven, Little Egg, Brigantine, and Corson, are in a completely natural state, except for aperiodic dredging activities in some instances. These inlets that are still in their natural state can be expected to change rapidly, especially during storms. Sea Girt Inlet has been closed recently by natural processes, though it could open again during a major storm.

Meaningful tidal current information on the tidal inlets of New Jersey is relatively scarce. Table 1 summarizes current data taken from two sources: 1) a computer program (Shio, Quick Response Tool, Tidal Heights and Tidal Current Application, Version 1.1) developed by the Hazardous Materials Response and Assessment Division of NOAA and based on the formulas and equations generated by the National Ocean Service; and 2) data supplied by the U.S. Army Corps of Engineers. We have current data for only five of the inlets. According to Jeff Gebert of the Corps of Engineers, there are no recent hydraulic measurements for Cape May, Corson, Beach Haven, and Little Egg inlets. There are data in the Corps files on Absecon, Townsends, and Hereford inlets, but that data has not been made available to us. We also have no data for Shark River Inlet.

As Table 1 shows, maximum tidal current velocities of between 2.5 and 3.7 knots are predicted for some of the inlets by the NOAA program. However, the strongest sustained flow measured by the Corps was 2.9 knots at Barnegat Inlet. Flood current velocities of 2.0-2.5 knots probably occur in most of the inlets. Higher velocities are to be expected during conditions of wind-assisted flows.

TABLE 1. Maximum tidal current velocities (in knots) in the tidal inlets on the Atlantic coast of New Jersey.

Inlet Number/ Name	Maximum Flood (kts)/ Direction		Maximum Ebb (kts)/ Direction	
Manasquan Inlet	1.5-2.4**	northwest	1.5-2.4**	southeast
	2.5*	300°	2.8*	120°
Manasquan River (highway bridge)	3.3*	230°	3.1*	050°
Barnegat Inlet	2.3-2.9**	northwest		
	3.3*	270°	3.7*	090°
Brigantine Inlet	2.1**	northwest (entrance)	2.3**	southeast
	2.6**	southwest (southwest arm)	2.1**	northeast
	1.7**	northwest (northwest arm)	1.9**	southeast
Great Egg Harbor Inlet	1.9**	west (western)	2.3**	east
	2.4**	northwest (entrance)	2.7**	southeast
	2.3**	northeast (east arm)	1.7**	southwest
Cape May Harbor Entrance	2.7*	330°	3.3*	150°

* Data are from a computer program (Shio, Quick Response Tool, Tidal Heights and Tidal Current Application, Version 1.1) developed by the Hazardous Materials Response and Assessment Division of NOAA and based on the formulas and equations generated by the National Ocean Service.

** Data supplied by the U.S. Army Corps of Engineers.

INLET PROTECTION STRATEGIES USED

The field team that devised the protection strategies was diverse, with backgrounds in geomorphology, environmental concerns, and operational experience. In making a decision on a protection strategy, the following hierarchy of controls dictated the final strategy:

1) Physical processes of the inlet

2) Protection priorities

3) Effectiveness of response

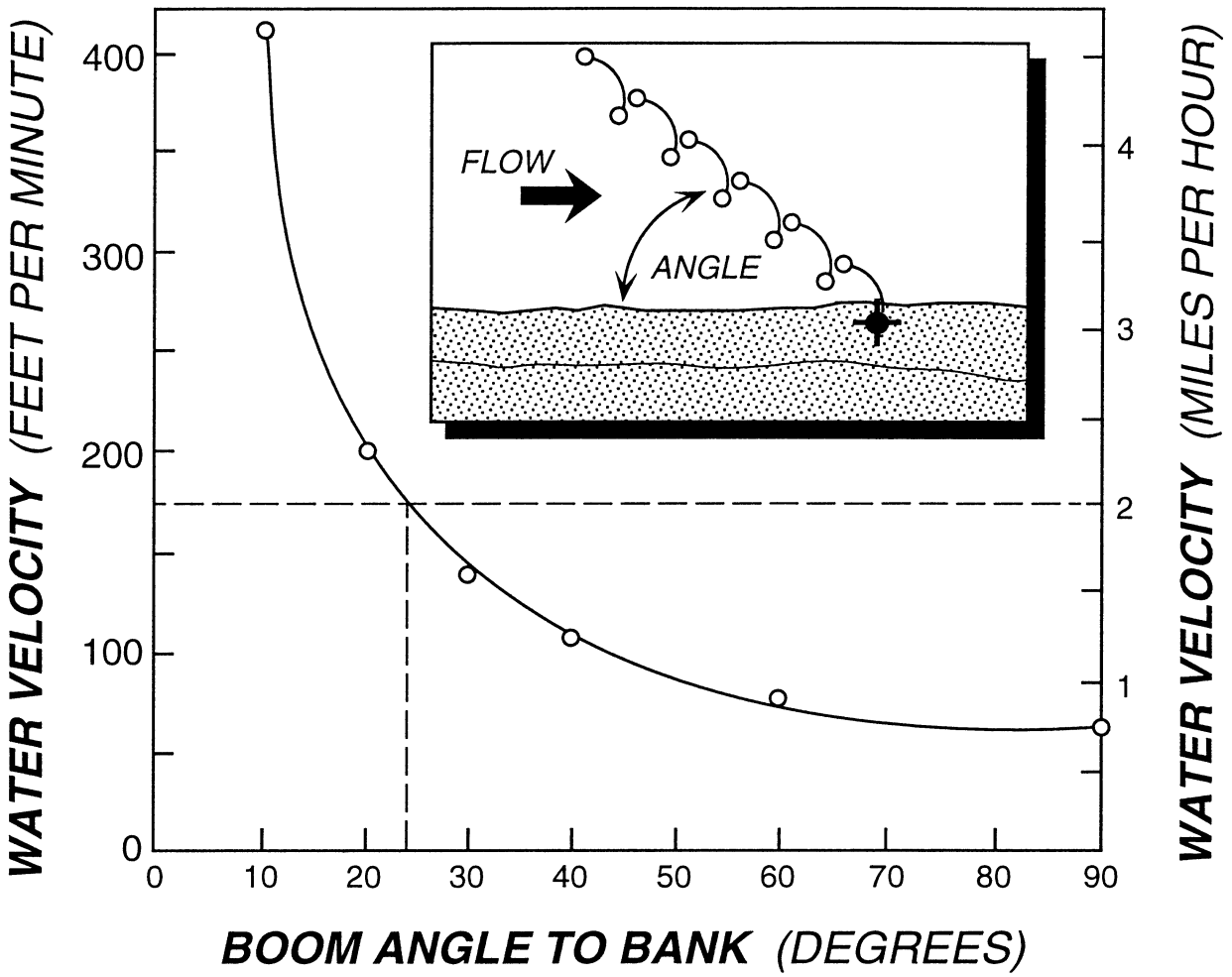
If the waves were assumed to be too large or tidal currents too strong for booms to function in certain parts of the inlet, the strategy called for fall back to more protected sites. Information from a number of sources dictated which parts of the estuarine system landward of the inlet required priority protection. Typically, most of the inlets contained sensitive salt marshes and tidal flats. The potential effectiveness of response was also given careful consideration. The probable effectiveness of a response would be controlled by such factors as access, particularly to collection points, types of equipment required, and logistics support required.

Several additional assumptions affected the final decision on a particular protection strategy:

- When oil is on the water, the first priority is containment and the second is recovery.

- Following guidelines established by the U.S. Coast Guard Strike Team, we conclude that deflection booms are the best means of controlling oil in the vicinity of tidal inlets because of the common occurrence of tidal currents greater than 0.7 knots, the threshold velocity for entrainment of oil past a boom set at 90° to the current (see diagram in Figure 5).

- The preferred method of recovery is to divert oil to a collection point along shore where the oil can be collected from the water surface. Trapping oil against vertical pilings, concrete seawalls, or protection boom is desirable. It is also possible to use as collection points fine- to medium-grained sand beaches, which are easily cleaned and penetration of oil into the sediment is minimal. Coarse-grained sand and shell beaches, riprap, tidal flats, and marshes should not be used as collection points except as a last resort.



(Courtesy of USCG)

FIGURE 5. Angles to set booms to avoid entrainment of the oil based on water current velocity in miles per hour (courtesy of U.S. Coast Guard Strike Team). THE SYMBOLS USED TO DEPICT BOOMS ARE NOT SHOWN TO TRUE SCALE. The length of the segments of boom to be used will be determined by local conditions.

- Entrainment of the deflection booms will occur, unless they are set at very small angles to the current, if the current velocity exceeds about 3.5 knots. Large waves also may cause both entrainment and splashover, depending upon the physical configuration of the boom.

- The protection strategies depicted relate only to spills located seaward of the inlet, and the strategy recommended applies only to flood-tide conditions.

An example of how one of the protection strategies is presented graphically is given in Figure 6. In that example, Corson Inlet, it was assumed that it would be necessary to fall back inside the inlet for the first line of defense, except for deflection boom set up (under moderate wave conditions) on the outer beaches to deflect oil from the marginal flood channels to the beach, particularly during the early flood stage of the tidal cycle. Three sites were chosen as the primary collection points (labeled 1, 2, and 6 on Fig. 6) for oil coming through the inlet throat. Site 1 is a sand beach area located directly facing the inlet throat, and sites 2 and 6 are along the shoreline on the landward side of the two sand spits at the inlet entrance (Fig. 6). The primary collection points have contingency back-up deflection boom and collection points, should entrainment occur at the first line of defense. Protection boom is used to protect the marsh shorelines just seaward of Ocean Drive. The red arrows indicate the probable path of surface oil during the flood tide. Some of the critical recommended anchor points for the boom are also shown.

INLET SKETCH MAP

Inlet Name CORSON INLET, NJ

Inlet Number 10

Recorder(s) MOH/TMM/EL/RS/MS/BG/PR/PM/JC/KS/DJ/CS/BA/ES

Date/Time 28 AUGUST 1997; 0800

Tide Stage LOW @ 1119 (+0.6)

Inlet Classification C

CHECKLIST

- ✓ North Arrow
- ✓ Scale
- ✗ High-Tide Line
- ✗ Low-Tide Line
- ✓ Substrate Type

LEGEND

Salt-Water Marsh

Riprap

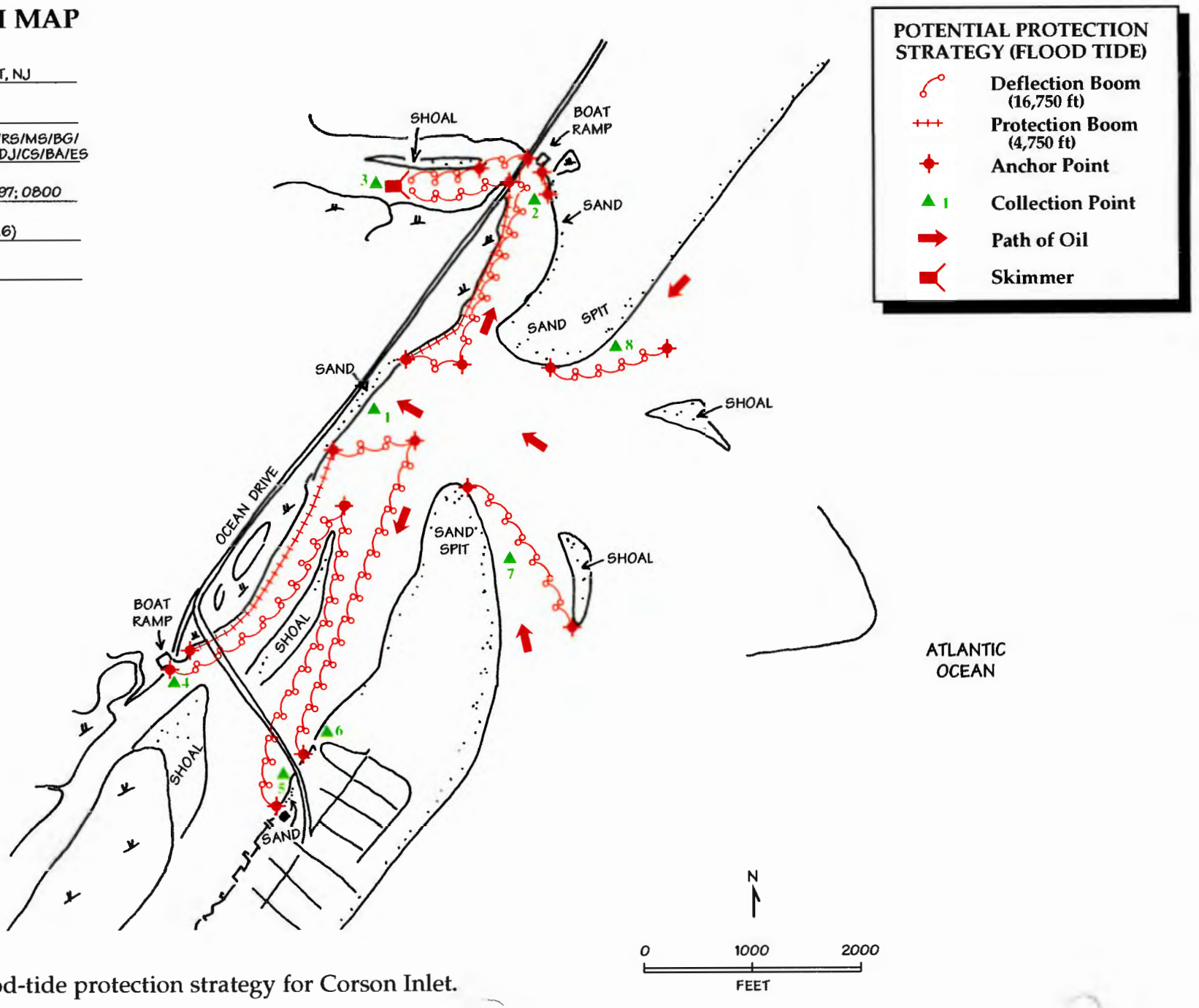


FIGURE 6. Flood-tide protection strategy for Corson Inlet.

INLET CLASSIFICATION

In the field, the inlets on the Atlantic coast of New Jersey were classified on the basis of the degree of difficulty for containment and recovery of spilled oil once it reaches the inlet. This ranking, which is summarized in Table 2, is on a scale that ranges from A to D, with the inlets classed as A's being the most difficult, and, consequently, the most expensive ones to deal with. The occurrence of the different inlets, by class, is illustrated in Figure 2. In New Jersey, three inlets were classified as A, Beach Haven, Little Egg, and Brigantine. Great Egg and Hereford Inlets were classified A/B, because it was thought that changing hydrodynamic conditions (e.g., large waves, high spring tides) would significantly increase the difficulty of protecting the inlets (from class B to class A). One inlet was ranked B, five C, one B/C, and one, Sea Girt Inlet, which was closed in August 1997, D.

TABLE 2. Proposed ranking scale for the coastal inlets on the Atlantic coast of New Jersey, based on estimated degree of difficulty for containment and recovery.

A. Extremely difficult because of large size and extreme physical conditions. Large expense because of magnitude of resources to protect.
B. Difficult because it is subject to strong currents and/or large waves.
C. Less difficult because of smaller tidal prism and relatively weak tidal currents.
D. Can be closed with sediment dike under normal adverse conditions.

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BOOM REQUIREMENTS

Approximate measurements of the footages of boom required for the strategies designed for the New Jersey inlets are given in Table 3. The totals include all of the back-up boom configurations shown on the strategy diagram. Deflection boom is boom segments set up at an angle to the current flow, cascade style, so as to divert the oil to a collection point down current. Protection boom is established around areas designated for protection, such as salt marshes and marina entrances.

TABLE 3. Footages of boom required for the potential protection strategies presented for the New Jersey outer coast. Refer to Figure 2 for site names and locations.

		FEET OF BOOM	
INLET NAME	CLASSIFICATION	DEFLECTION	PROTECTION
Shark River	C	2,000	0
Sea Girt*	D	0	0
Manasquan	C	8,250	0
Barnegat	B	13,250	3,500
Beach Haven	A	6,000	1,000
Little Egg	A	6,500	0
Brigantine	A	10,000	6,500
Absecon	C	14,500	1,500
Great Egg Harbor	A/B	27,500	3,500
Corson	C	16,750	4,750
Townsends	C	12,000	1,500
Hereford	A/B	31,500	13,000
Cape May	B/C	12,750	0
Total		264,500	32,350

* Close with a sand dike.

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EXPLANATION OF TERMS USED

The following provides explanations and definitions for the terminology used in the discussion of protection strategies for the tidal inlets.

Beach Morphology

The typical beach morphology found in New Jersey is illustrated in Figure 7. Sand beaches are normally planed off flat during storms.

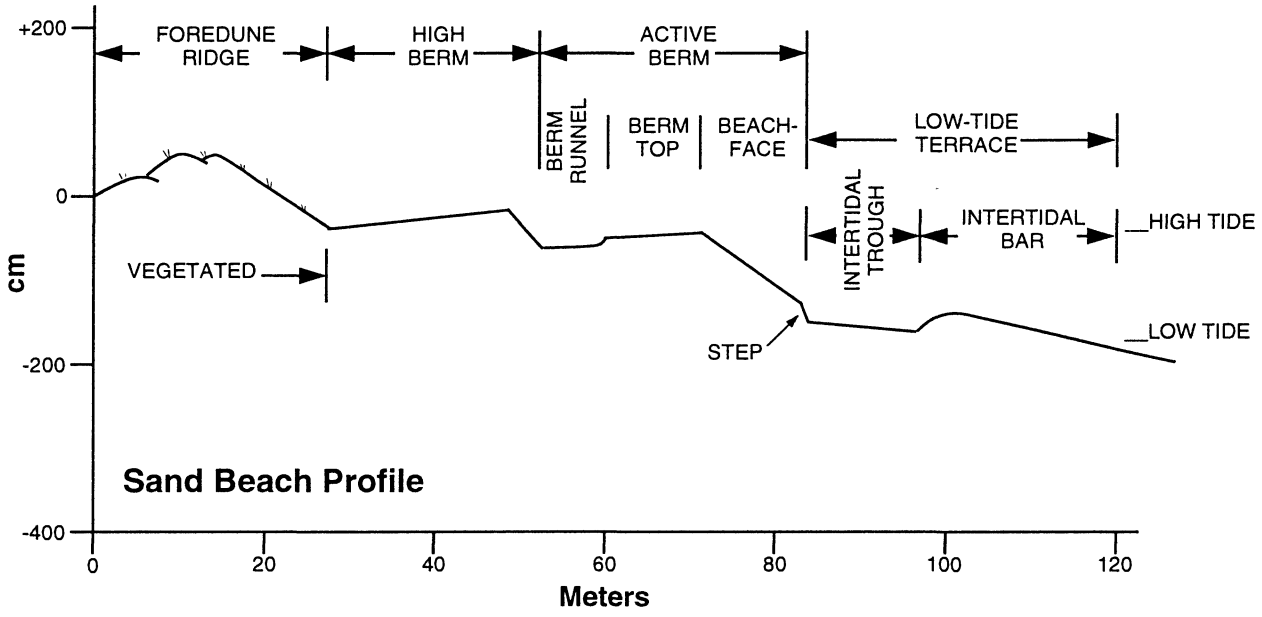

FIGURE 7. Nomenclature used for the sand beaches.

Coastal Sediments

Coastal sediments are classified into three general categories according to the dominant size of the individual clasts: (1) gravel, mean size greater than 2.0 mm; (2) sand, mean size between 0.0625 and 2.0 mm; and (3) mud, mean size less than 0.0625 mm.

Other Commonly Used Terms

Some additional terms that are used in the descriptions of the coastal inlets are defined as follows:

Active berm. The most seaward and most recently activated berm.

Anchor point. Stabilized position to which the line of booms is attached.

Berm (on a beach). A wedge-shaped sediment mass built up along the shoreline by wave action. Typically has a relatively steep seaward face and a gently sloping landward surface. A sharp crest (berm crest) usually separates the two oppositely sloping planar surfaces on the top of the berm. There are frequently two berms present, a high berm, the most landward, oldest berm, and an active berm, the most seaward and most recently activated berm (Figure 7).

Collection point. Zone along the shoreline where oil is directed so it can be collected from water surface or cleaned up. An example would be a hard-packed, fine-grained beach from which oil contamination can be readily recovered.

Deflection boom. A floating barrier designed to direct the flow of oil to a suitable collection point so that it can be recovered. The boom is set at an oblique angle to the primary flow direction. The angle is dependent on the velocity of the currents.

Ebb-tidal delta. Lobate accumulation of sand at the seaward margin of the primary entrance channel to a tidal inlet. Formed as a result of deceleration of ebb-tidal currents. Modified by waves.

Flood-tidal delta. Lobate accumulation of sand at the landward margin of the primary entrance channel to a tidal inlet. Formed as a result of deceleration of flood-tidal currents.

Groin. A shore protection structure built perpendicular to the shoreline, intended to trap littoral drift and retard erosion of the shore (W.F. Baird, pers. comm.).

Hinge point. An anchored position in the line of deflection booms at which a major change in the angle of the line of booms is affected.

Inlet throat. The deepest portion of the channel that connects the ocean to the mainland water body in a tidal inlet complex. Deep scour is the result of the accelerated flow of ebb- and flood-tidal currents in the constricted entrance channel.

Intertidal boom. Boom designed to lay on intertidal surface at low tide and to prevent entrainment of oil under the boom on a rising tide.

Jetty. A structure extending into a body of water, designed to provide access to an onshore berth (W.F. Baird, pers. comm.).

Knot. A unit of speed in navigation equal to one nautical mile per hour (1.852 km/h) (W.F. Baird, pers. comm.).

Longshore sediment transport. Sediment moved on the beach and in the nearshore zone by currents generated by breaking waves.

Main ebb channel. Deep channel through ebb-tidal delta, scoured by ebb-tidal currents, that projects seaward directly away from the inlet throat (see Figure 3).

Marginal flood channel. Component of ebb-tidal delta resulting from horizontal segregation of tidal current flow. Ebb-tidal delta usually has two marginal flood channels which are oriented obliquely to the main ebb channel and roughly parallel to the adjacent beaches (see Figure 3).

Protection boom. Boom designed to keep oil away from some feature, such as a fringing salt marsh. Not designed specifically for deflection or collection.

Riprap. A layer of randomly placed cobble- to boulder-sized fragments of rock designated to prevent erosion or scour of a structure, embankment, or foundation (W.F. Baird, pers. comm.).

Salt-water marsh. Growth of herbaceous plants subject to inundation of salt water during a tidal cycle.

Seawall. A structure separating land and water areas, designated primarily to prevent erosion and other damages due to wave action (W.F. Baird, pers. comm.). Usually vertical and composed of concrete.

Skimmer. Mechanical device designed to float on water and remove oil or oily water mixtures from the water surface.

Spit. Linear inter- or supratidal sediment body built by wave action. Typically composed of multiple curving beach ridges that project away from the dominant wave approach direction.

Tidal channel. Permanent channel located within the intertidal zone that serves as a conduit for the rising and falling tide. These channels usually migrate slowly.

Tidal prism. The total volume of water that flows into and out of a bay, harbor, or estuary during one tidal cycle.

Tide. The periodic rising and falling of the water that results from gravitational attraction of the Moon and Sun and other astronomical bodies acting upon the rotating Earth (W.F. Baird, pers. comm.).

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INLET SUMMARY SHEET

SITE: **Shark River Inlet, Monmouth County, New Jersey**

DATE AND TIME SURVEYED (TIDE):

29 August 1997; 1200 [Low @ 1129 (+0.5); Shark River Inlet (Entrance), Outer Coast, Station No. 1695]

The tidal level during the site survey was +0.6

RANKING (DEGREE OF DIFFICULTY): (see ranking scale)

C

PRINCIPAL RESOURCES AT RISK:

Fringing marsh. Gulls and terns, including the great black-backed gull, herring gull, and laughing gull; raptors, including the osprey; and shorebirds, including the black skimmer. Numerous species of wading birds and waterfowl are also distributed throughout the area. Shellfish, including the blue crab, northern quahog (hard clam), and soft-shell clam. Seawalls, revetments, etc. along shores of the Shark River.

PRELIMINARY PROTECTION STRATEGY:

Deploy two lines of deflection boom across the main channel at low oblique angles so that the first line diverts oil to a collection point against the seawall at the U.S. Coast Guard Station (CP1) and the second to a collection point against the bulkhead at the end of Fifth Avenue (CP2).

GEOMORPHOLOGY:

Simple, narrow jettied inlet. Tidal currents probably relatively weak because of small tidal prism. Shallow flats at CP2 possibly intertidal at low spring tides.

INLET SUMMARY SHEET

SITE: **Shark River Inlet, Monmouth County, New Jersey**

RESOURCES REQUIRED (IF FULL STRATEGY IS IMPLEMENTED):

Two thousand feet of deflection boom. Two vacuum trucks with skimmer head; 20 anchor sites, minimum. For more detailed information, refer to data provided by NRC.

PRIORITY OF DEPLOYMENT:

Set up CP1 first and CP2 second.

SUGGESTIONS FOR DATA ACQUISITION:

Contact Lynn Koeter (212/264-9083) at the New York District of the U.S. Army Corps of Engineers for possible current information. If none is available, measurements should be made.

SHARK RIVER INLET

From USGS 7.5' topographic quad: Asbury Park, New Jersey, published: 1989

SCALE 1 : 24,000

1 .5 0 1

MILES

1 .5 0 1

KILOMETERS

N

SHARK RIVER INLET

From USGS NAPP: roll #8648, frame #19; March 1995; scale -1:40,000

0 1 2 MILES

Shark River Inlet at low tide on 26 August 1997, looking west

INLET SKETCH MAP

Inlet Name SHARK RIVER INLET, NJ

Inlet Number 1

Recorder(s) MOH/TMM/EL/RS/ MS/JL/CS/WR/KO/ES

Date/Time 29 AUGUST 1997; 1200

Tide Stage LOW @ 1129 (+0.5)

Inlet Classification C

CHECKLIST

- ✓ North Arrow
- ✓ Scale
- ✗ High-Tide Line
- ✗ Low-Tide Line
- ✓ Substrate Type

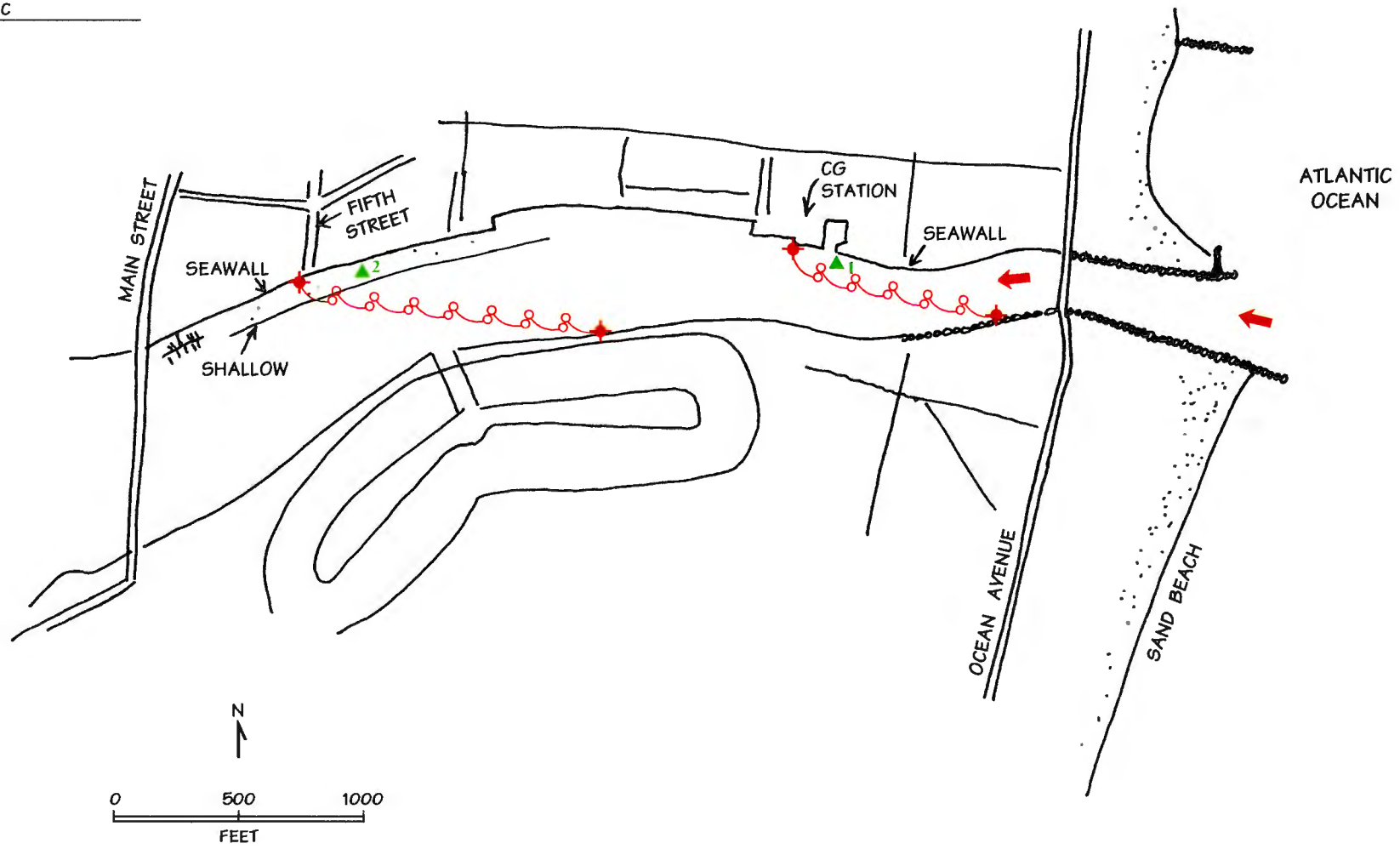
LEGEND

Salt-Water Marsh

Riprap

POTENTIAL PROTECTION STRATEGY (FLOOD TIDE)

- Deflection Boom (2,000 ft)
- Anchor Point
- Collection Point
- Path of Oil



30

COLLECTION POINT SUMMARY SHEET

INLET: **Shark River Inlet, Monmouth County, New Jersey**

COLLECTION POINT: CP1

DATE: 29 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

In Avon-By-The-Sea on north side of inlet at Coast Guard Station boat basin

SHORELINE DESCRIPTION:

Seawall

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available, but anticipate velocities of 1-2 knots.

ACCESS:

Take Route #71 south to Washington Avenue. Go east five (5) blocks to U.S. Coast Guard Station.

PROPOSED EQUIPMENT:

Approximately 800 feet of deflection boom. Vacuum truck with skimmer head; 8 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Good staging area on Coast Guard Station grounds.

COLLECTION POINT SUMMARY SHEET

INLET: **Shark River Inlet, Monmouth County, New Jersey**

COLLECTION POINT: CP2

DATE: 29 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

In Avon-By-The-Sea on north side of inlet at bulkhead at south end of 5th Avenue

SHORELINE DESCRIPTION:

Seawall

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available, but anticipate velocities up to 1.5 knots.

ACCESS:

Take Route #75 south to Washington Avenue. Go east two (2) blocks to 5th Avenue.

PROPOSED EQUIPMENT:

Approximately 1,200 feet of deflection boom. Vacuum truck with skimmer head; 12 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Staging area somewhat limited because it is in residential area.

INLET SUMMARY SHEET

SITE: **Sea Girt Inlet, Monmouth County, New Jersey**

DATE AND TIME SURVEYED (TIDE):

Observed during overflight on 26 August 1997; 0930 [Low @ 0835 (+0.6); Sea Girt, Outer Coast, Station No. 1699]

The tidal level during the overflight of this inlet was +0.9

RANKING (DEGREE OF DIFFICULTY): (see ranking scale)

D

PRINCIPAL RESOURCES AT RISK:

Fringing marsh. Gulls and terns, including the great black-backed gull, herring gull, and laughing gull; raptors, including the osprey; shorebirds, including the black skimmer; wading birds; and waterfowl, including the American coot, American wigeon, black duck, brant, bufflehead, Canada goose, canvasback, common eider, goldeneye, green-winged teal, mallard, merganser, mute swan, northern pintail, northern shovelor, oldsquaw, red head, ring-necked duck, ruddy duck, scaup, scoter, and whistling swan (tundra swan). Seawalls, revetments, etc. along shores of Wreck Pond.

PRELIMINARY PROTECTION STRATEGY:

This inlet was closed off at the time of the survey by an overwash terrace. This overwash terrace has been breached, historically, during high spring tides or the passage of storm systems. A large sand berm can be constructed to prevent oil from entering Wreck Pond. There is also a culvert leading to this pond and it can be blocked off using inflatable barriers, etc. to prevent the incursion of oil.

INLET SUMMARY SHEET

SITE: **Sea Girt Inlet, Monmouth County, New Jersey (continued)**

GEOMORPHOLOGY:

Washover terrace is presently closing off inlet entrance. Will washover during storms, especially if they occur at high spring tides.

RESOURCES REQUIRED (IF FULL STRATEGY IS IMPLEMENTED):

Earth-moving equipment to close inlet if it is open during a spill.

PRIORITY OF DEPLOYMENT:

N/A

SUGGESTIONS FOR DATA ACQUISITION:

Keep in contact with local observers to determine when, or if, the inlet opens again.

SEA GIRT INLET

From USGS 7.5' topographic quad: Asbury Park, New Jersey, published: 1989

SCALE 1 : 24,000

1 .5 0 1

MILES

1 .5 0 1

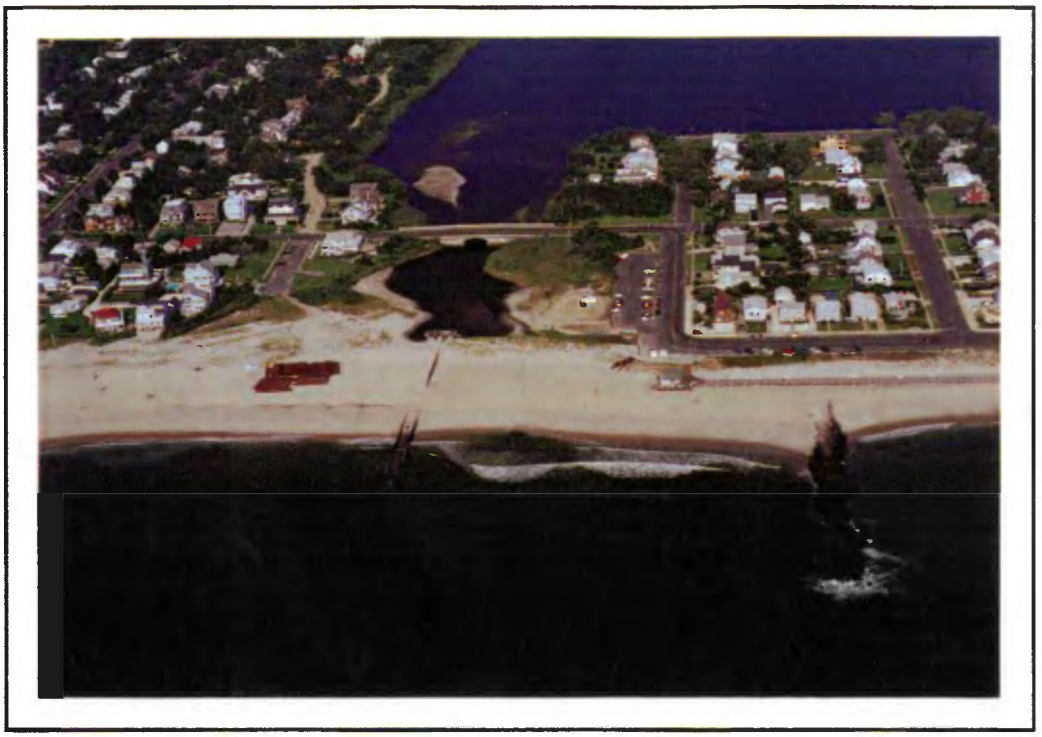
KILOMETERS

N

SEA GIRT INLET

From USGS NAPP: roll #8648, frame #18; March 1995; scale -1:40,000

0 1 2 MILES



Sea Girt Inlet at low tide on 26 August 1997, looking west

INLET SKETCH MAP

Inlet Name SEA GIRT INLET, NJ

Inlet Number 2

Recorder(s) MOH/TMM (overflight)

Date/Time 26 AUGUST 1997; 0930

Tide Stage LOW @ 0835 (+0.6)

Inlet Classification D

CHECKLIST

✓ North Arrow
✓ Scale
✗ High-Tide Line
✗ Low-Tide Line
✓ Substrate Type

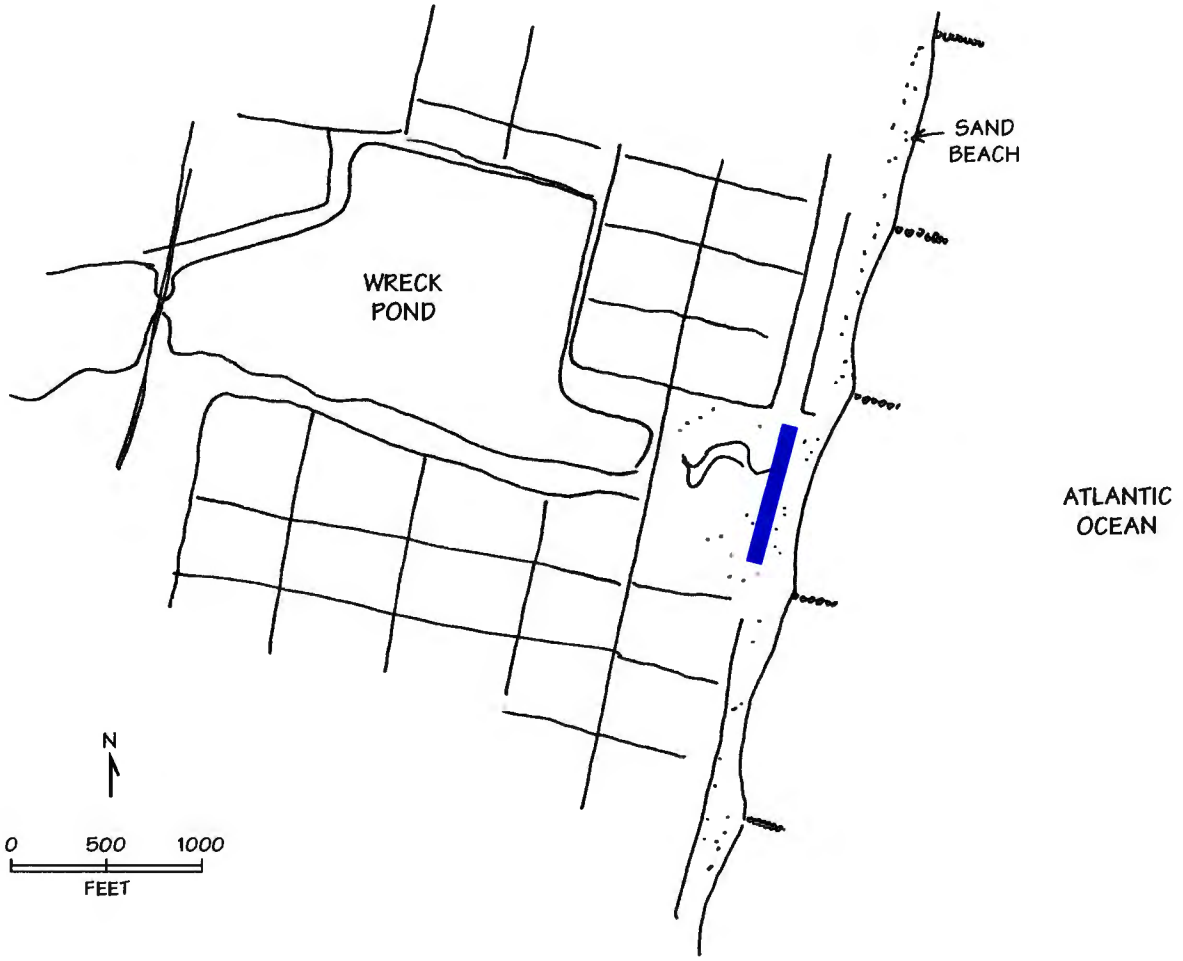
LEGEND

Salt-Water Marsh

Riprap

POTENTIAL PROTECTION STRATEGY (FLOOD TIDE)

Sand Dike



INLET SUMMARY SHEET

SITE: **Manasquan Inlet, Monmouth and Ocean Counties, New Jersey**

DATE AND TIME SURVEYED (TIDE):

29 August 1997; 1100 [Low @ 1129 (+0.5); Manasquan Inlet, Outer Coast, Station No. 1701]

The tidal level during the site survey was +0.6

RANKING (DEGREE OF DIFFICULTY): (see ranking scale)

C

PRINCIPAL RESOURCES AT RISK:

Fringing marsh. Gulls and terns, including the great black-backed gull, herring gull, and laughing gull; raptors, including the osprey; and shorebirds, including the black skimmer. Numerous species of wading birds and waterfowl are also distributed throughout the area. Shellfish, including the American oyster (eastern) in the Intracoastal Waterway (Bay head-Manasquan Canal), northern quahog (hard clam), and soft-shell clam. Marina and boat ramp facilities, boats, seawalls, revetments, docks, etc. along shores of the Manasquan River.

PRELIMINARY PROTECTION STRATEGY:

Deploy a line of deflection boom in the inlet throat and divert oil to a collection point against the seawall along the northern inlet shoreline (CP1). Anchor a line of deflection boom to the northern inlet shoreline, extend it into the main channel, and divert oil to a sandy collection point in what appears to be a natural collection area along the northern inlet shoreline (CP2). Extend a line of deflection boom from the landward end of the seawall along the southern inlet shoreline, across the main channel at a low oblique angle, to divert oil to a sandy collection point on the north side of the river channel,

INLET SUMMARY SHEET

SITE: **Manasquan Inlet, Monmouth and Ocean Counties, New Jersey (continued)**

PRELIMINARY PROTECTION STRATEGY: (continued)

seaward of the railroad bridge (CP3). Extend a line of deflection boom along the northern river channel shoreline, across the mouth of Crabtown Creek, to divert oil to CP3.

GEOMORPHOLOGY:

Simple, narrow jettied inlet in a stable position. Because of narrow constriction of entrance, flood currents up to 2.5 knots possible. Tidal deltas not well developed.

RESOURCES REQUIRED (IF FULL STRATEGY IS IMPLEMENTED):

Approximately 8,250 feet of deflection boom; 83 anchor sets, minimum. Three vacuum trucks with skimmer heads, or possibly two trucks and one mobile skimmer/barge system. For more detailed information, refer to data provided by NRC.

PRIORITY OF DEPLOYMENT:

Establish CP3 first, CP1 second, and CP2 third.

SUGGESTIONS FOR DATA ACQUISITION:

Data appears to be adequate for this inlet.

MANASQUAN INLET

From USGS 7.5' topographic quad: Point Pleasant, New Jersey, published: 1989

SCALE 1 : 24,000

1 .5 0 1

MILES

1 .5 0 1

KILOMETERS

N

MANASQUAN INLET

From USGS NAPP: roll #8648, frame #16; March 1995; scale -1:40,000

0 1 2 MILES

Manasquan Inlet at low tide on 26 August 1997, looking west

INLET SKETCH MAP

Inlet Name MANASQUAN INLET, NJ

Inlet Number 3

Recorder(s) MOH/TMM/EL/MS/ JL/CS/WR/KO/ES

Date/Time 29 AUGUST 1997; 1100

Tide Stage LOW @ 1129 (+0.5)

Inlet Classification C

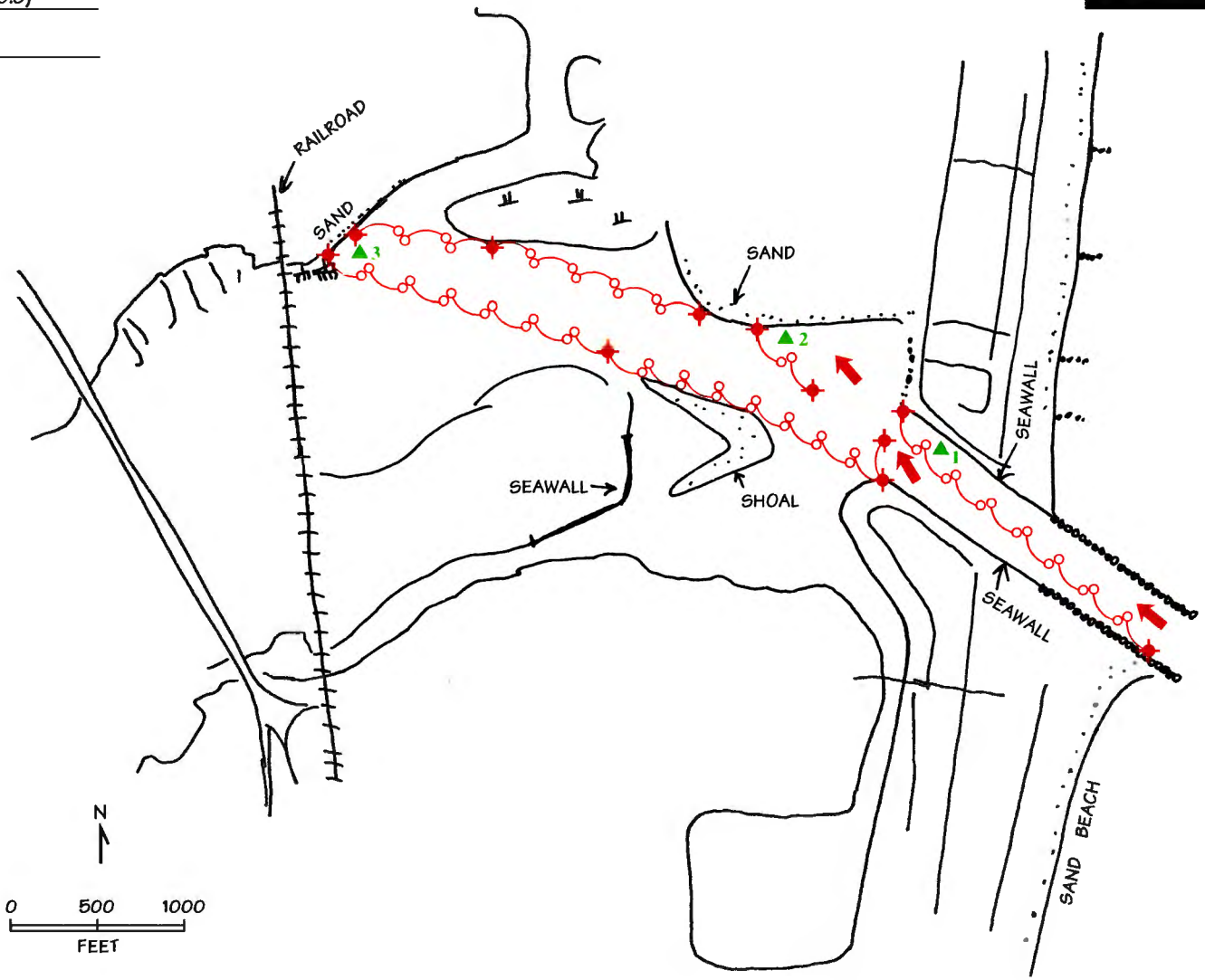
CHECKLIST

✓ North Arrow
✓ Scale
✗ High-Tide Line
✗ Low-Tide Line
✓ Substrate Type

LEGEND

Salt-Water Marsh

Riprap



COLLECTION POINT SUMMARY SHEET

INLET: **Manasquan Inlet, Monmouth and Ocean Counties, New Jersey**

COLLECTION POINT: CP1

DATE: 29 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Seawall portion of the north jetty in town of Manasquan

SHORELINE DESCRIPTION:

Seawall

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

1.5 to 2.5 knots maximum on both flood and ebb.

ACCESS:

Take Route #35 south to Route #71 north. Turn right on Fisk Avenue and travel east to beach road. Go south to jetty.

PROPOSED EQUIPMENT:

Two thousand feet of deflection boom. Vacuum truck with skimmer head; 20 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Good staging area in road/parking area by jetty.

COLLECTION POINT SUMMARY SHEET

INLET: **Manasquan Inlet, Monmouth and Ocean Counties, New Jersey**

COLLECTION POINT: CP1

DATE: 29 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Seawall portion of the north jetty in town of Manasquan

SHORELINE DESCRIPTION:

Seawall

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

1.5 to 2.5 knots maximum on both flood and ebb.

ACCESS:

Take Route #35 south to Route #71 north. Turn right on Fisk Avenue and travel east to beach road. Go south to jetty.

PROPOSED EQUIPMENT:

Two thousand feet of deflection boom. Vacuum truck with skimmer head; 20 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Good staging area in road/parking area by jetty.

COLLECTION POINT SUMMARY SHEET

INLET: **Manasquan Inlet, Monmouth and Ocean Counties, New Jersey**

COLLECTION POINT: CP2

DATE: 29 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

In town of Manasquan, along north shore of inlet throat. Approximately 1,000 feet west of the landward end of the seawall

SHORELINE DESCRIPTION:

Sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Current probably less than 1.5 knots. Possible back eddy area during flood tides.

ACCESS:

Take Route #35 south to Route #71 north. Turn right on Fisk Avenue and travel east to beach road. Go south to jetty.

PROPOSED EQUIPMENT:

Approximately 500 feet of deflection boom; 5 anchor sets, minimum. If dirt road is trafficable, use a vacuum truck with skimmer head. If not, skimmer with bladder/ barge system.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Good natural collection site because of probable back-eddy location, but potentially difficult land access.

COLLECTION POINT SUMMARY SHEET

INLET: **Manasquan Inlet, Monmouth and Ocean Counties, New Jersey**

COLLECTION POINT: CP3

DATE: 29 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Sandy shoreline adjacent to marina east of railroad bridge on north side of main channel. Mouth of Crabtown Creek

SHORELINE DESCRIPTION:

Seawall fronted by narrow sand beach. Several piers in area

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Probably less than 1.5 knots on both ebb and flood.

ACCESS:

Take Route #35 south to Route #71 north. Turn right on Fisk Avenue and cross Debbies Creek. Take first right after bridge and head south to marina.

PROPOSED EQUIPMENT:

Approximately 5,750 feet of deflection boom. Vacuum truck with skimmer head; 58 anchor sets, minimum. Two hundred feet of deflection boom off anchor point at west end of south jetty.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Difficult staging area because of congestion.

INLET SUMMARY SHEET

SITE: **Barnegat Inlet, Ocean County, New Jersey**

DATE AND TIME SURVEYED (TIDE):

29 August 1997; 0830 [Low @ 1144 (+0.4); Barnegat Inlet, Barnegat Bay, Outer Coast, Station No. 1719]

The tidal level during the site survey was +2.0

RANKING (DEGREE OF DIFFICULTY): (see ranking scale)

B

PRINCIPAL RESOURCES AT RISK:

The marshes which harbor vast numbers of migrating and wintering waterfowl from October through April. During the remaining months, these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors. Submerged aquatic vegetation (eel grass) and several threatened and endangered terrestrial plant species including beach amaranth and salt-marsh bulrush. Gulls and terns, including the great black-backed gull, herring gull, laughing gull, gull-billed tern, least tern, and roseate tern; raptors, including the bald eagle, peregrine falcon, northern harrier and osprey; shorebirds, including the black skimmer and piping plover; wading birds, including the black-crowned night heron, glossy ibis, great egret, and little blue heron; and waterfowl, including the American coot, American wigeon, black duck, brant, bufflehead, Canada goose, canvasback, common eider, goldeneye, green-winged teal, mallard, merganser, mute swan, northern pintail, northern shovelor, oldsquaw, red head, ring-necked duck, ruddy duck, scaup, scoter, and whistling swan (tundra swan). Shellfish, including the blue crab and northern quahog (hard clam). Marina and boat ramp facilities, boats, seawalls, revetments, docks, etc. along shores of Barnegat Bay.

Nesting times of threatened and endangered species of concern:

Piping plover	1 May through 1 September
Least tern	1 May through 1 September

INLET SUMMARY SHEET

SITE: **Barnegat Inlet, Ocean County, New Jersey (continued)**

PRINCIPAL RESOURCES AT RISK: (continued)

Roseate tern	1 May through 1 September
Black skimmer	1 May through 1 September
Osprey	1 March through 1 August
Peregrine falcon	1 March through 1 August
Bald eagle	1 February through 1 August

PRELIMINARY PROTECTION STRATEGY:

Anchor two lines of deflection boom in the main channel to divert oil to collection points against the riprap along the southern inlet shoreline (CP1 and CP2). Anchor a line of deflection boom to the mainland and extend it into the main channel to divert oil to a collection point against the riprap along the shoreline seaward of the boat basin adjacent to the U.S. Coast Guard Station (CP3). Deflection boom should be deployed from CP3, and run along the north side of the intertidal sand shoal and anchored to the north end of the shoal. Another line of deflection boom should be anchored to the aforementioned sand shoal and the landward side of the flood-tidal delta sand shoal and divert oil to a skimmer situated in the main channel (CP4). A similar configuration of deflection boom leading to skimmer (CP5) should be deployed landward of CP4. Deflection boom should be anchored to the northern inlet shoreline, landward of the jetty, and divert oil to a sandy collection point (CP6). Protection boom should be placed across the break in the dike along the shoreline on the north side of the main channel, and from the sand shoal in the main channel, along the channel margin, and in front of the shoreline of the Barnegat Lighthouse State Park.

INLET SUMMARY SHEET

SITE: **Barnegat Inlet, Ocean County, New Jersey (continued)**

GEOMORPHOLOGY:

Complex inlet with large flood-tidal delta in the middle of the channel just landward of two long jetties. A well-developed ebb-tidal delta, that conforms closely to the model given in Figure 3, occurs seaward of the jetties. The new south jetty was constructed from December 1987 to June 1991 (USACE). Currents are very complex. Peak flood flow occurs at high water, with strong flow no doubt taking place across the top of the flood-tidal delta. The channel on the south side of the flood delta experiences ebb velocities a knot greater than flood velocities. The channel morphology is extremely important in this inlet.

RESOURCES REQUIRED (IF FULL STRATEGY IS IMPLEMENTED):

Approximately 13,250 feet of deflection boom; 133 anchor sets, minimum. Approximately 3,500 feet of protection boom; 35 anchor sets, minimum. Three skimmer/barge systems. Three vacuum trucks with skimmer heads. For more detailed information, refer to data provided by NRC.

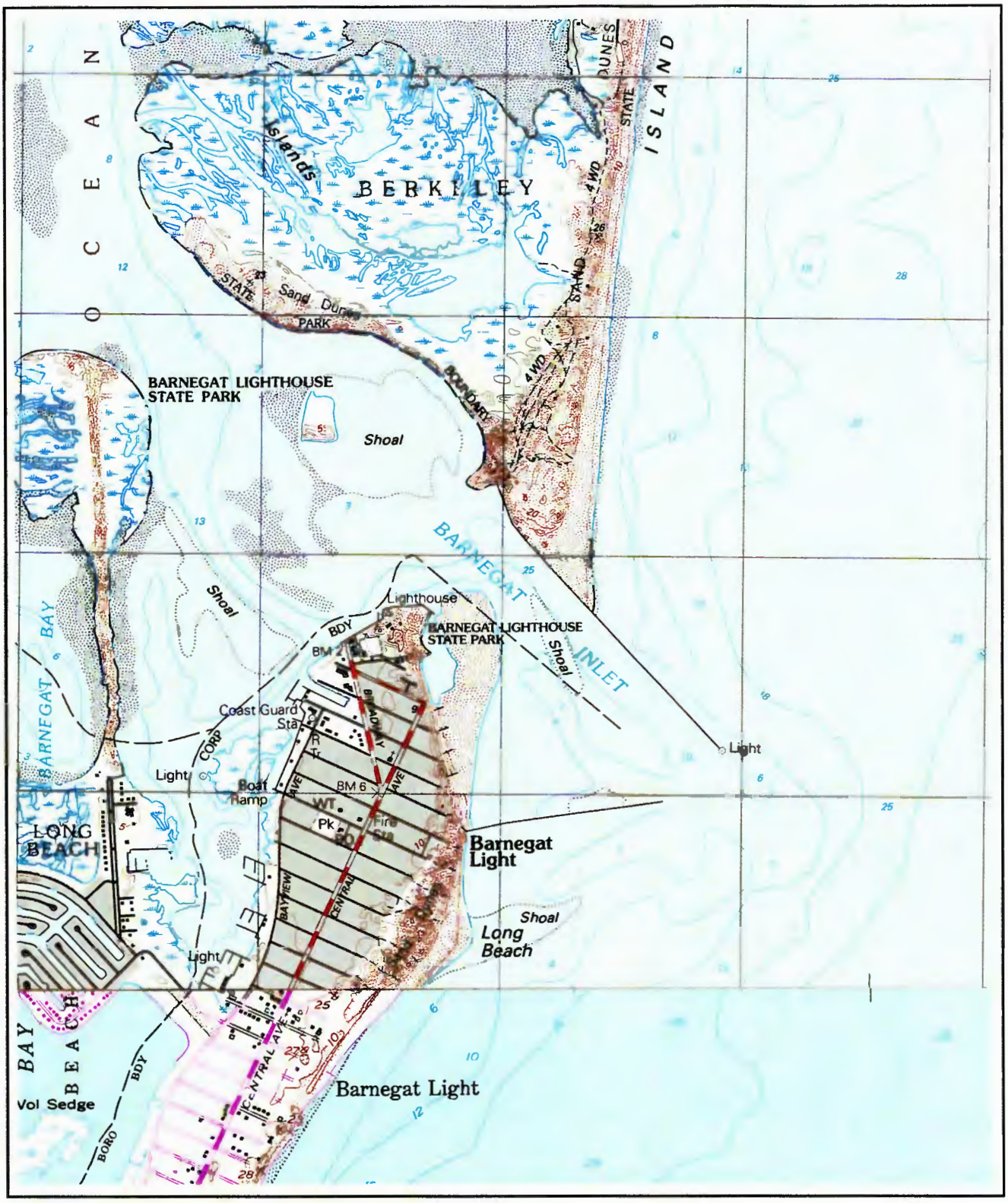
PRIORITY OF DEPLOYMENT:

Deploy in the following order: CP5, CP2, CP3, CP1, CP4, and CP6.

SUGGESTIONS FOR DATA ACQUISITION:

This inlet should be monitored frequently to note any major changes in channel shapes and positions.

BARNEGAT INLET



From USGS 7.5' topographic quads: Barnegat Light, New Jersey, published: 1989
and Long Beach, New Jersey, published: 1951, photorevised: 1972, photoinspected: 1977

SCALE 1 : 24,000

1 .5 0 1
MILES

1 .5 0 1
KILOMETERS

N

BARNEGAT INLET

From USGS NAPP: roll #8648, frame #70; March 1995; scale -1:40,000

0 1 2 MILES

Barnegat Inlet at low tide on 26 August 1997, looking west

INLET SKETCH MAP

Inlet Name BARNEGAT INLET, NJ

Inlet Number 4

Recorder(s) MOH/TMM/EL/MS/ JL/CS/WR/KO/ES

Date/Time 29 AUGUST 1997; 0830

Tide Stage LOW @ 1144 (+0.4)

Inlet Classification B

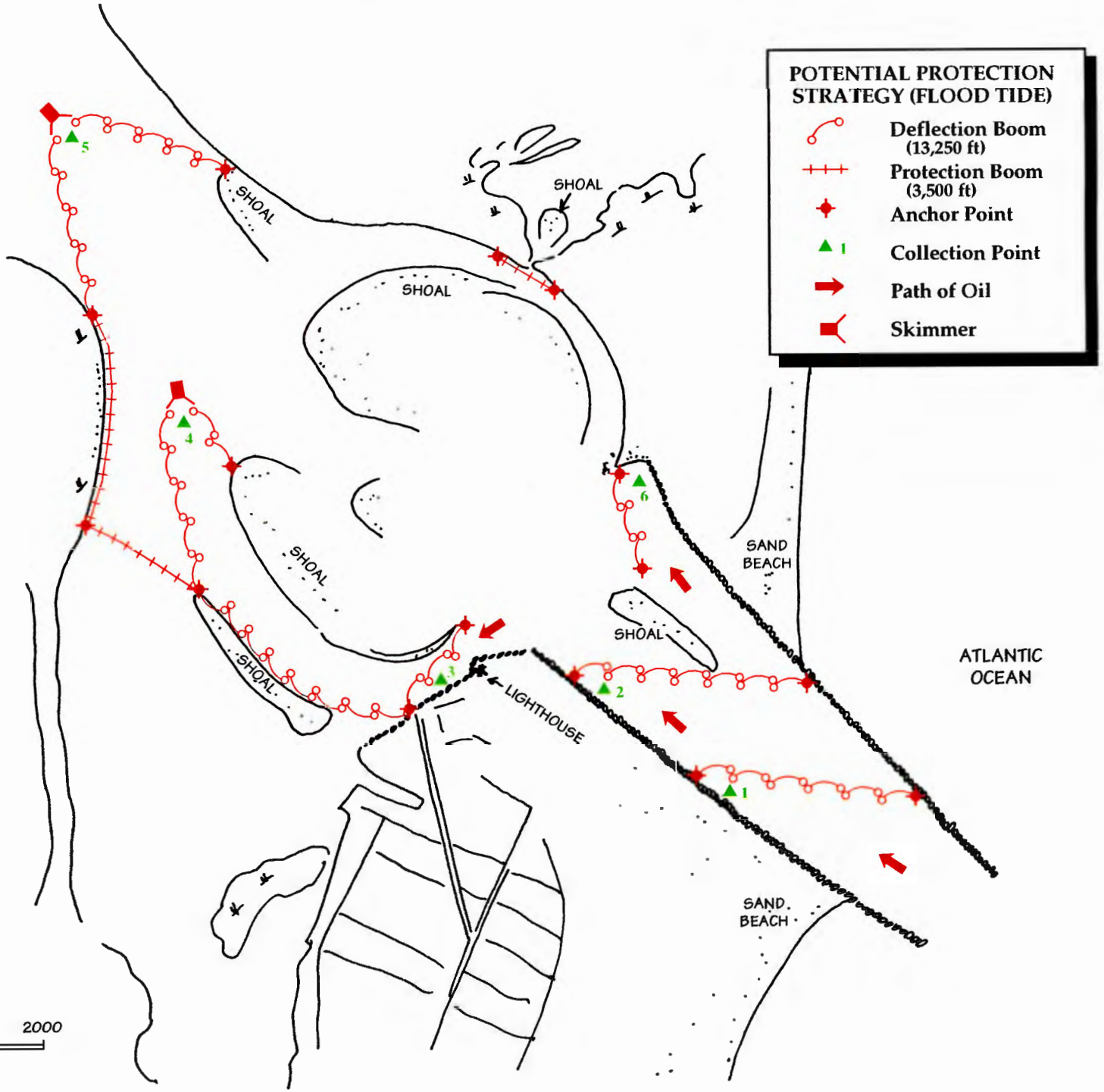
CHECKLIST

- ✓ North Arrow
- ✓ Scale
- ✗ High-Tide Line
- ✗ Low-Tide Line
- ✓ Substrate Type

LEGEND

Salt-Water Marsh

Riprap



COLLECTION POINT SUMMARY SHEET

INLET: **Barnegat Inlet, Ocean County, New Jersey**

COLLECTION POINT: CP1

DATE: 29 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Middle of south jetty

SHORELINE DESCRIPTION:

Riprap jetty margin (possibly permeable)

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Measured maximum flood velocities of 2.3-2.9 knots. Potential currents up to 3.5 knots on both ebb and flood tides.

ACCESS:

Take Central Avenue north to Broadway. Proceed north on Broadway to Barnegat Light State Park.

PROPOSED EQUIPMENT:

Approximately 2,000 feet of deflection boom. Vacuum truck with skimmer head; 20 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Because of strong currents, expect some entrainment. Unmaintained sandy road to collection point.

COLLECTION POINT SUMMARY SHEET

INLET: **Barnegat Inlet, Ocean County, New Jersey**

COLLECTION POINT: CP2

DATE: 29 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

On south jetty near Barnegat Light State Park

SHORELINE DESCRIPTION:

Riprap jetty margin (possibly permeable)

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Measured maximum flood velocities of 2.3-2.9 knots. Potential currents up to 3.5 knots on both ebb and flood tides.

ACCESS:

Take Central Avenue north to Broadway. Proceed north on Broadway to Barnegat Light State Park.

PROPOSED EQUIPMENT:

Approximately 2,000 feet of deflection boom. Vacuum truck with skimmer head; 20 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Because of strong currents, expect some entrainment. Unmaintained sandy road to collection point.

COLLECTION POINT SUMMARY SHEET

INLET: **Barnegat Inlet, Ocean County, New Jersey**

COLLECTION POINT: CP3

DATE: 29 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Approximately 500 feet west of the Barnegat Light. At north end of Broadway in town of Barnegat Light

SHORELINE DESCRIPTION:

Riprap revetment

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Expect flood velocities of 1.5-2.0 knots. Ebb currents are one knot stronger than ebb (USACE). Strongest flood currents against shoal–possible back eddy at collection point. Strongest ebb velocities against riprap at collection point.

ACCESS:

Take Central Avenue north to Broadway. Proceed north on Broadway to end of road.

PROPOSED EQUIPMENT:

Approximately 1,000 feet of deflection boom. Vacuum truck with skimmer head; 10 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Good staging area in restaurant parking lot. Strong ebb currents could cause a serious problem at this site.

COLLECTION POINT SUMMARY SHEET

INLET: **Barnegat Inlet, Ocean County, New Jersey**

COLLECTION POINT: CP4

DATE: 29 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Landward side of flood-tidal delta

SHORELINE DESCRIPTION:

N/A

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Maximum flood current on the order of 1.5 knots. Ebb current would be considerably stronger than that.

ACCESS:

By boat

PROPOSED EQUIPMENT:

Approximately 4,250 feet of deflection boom; 43 anchor sets, minimum. Skimmer/ barge system.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Strong ebb currents could be a problem. Not a land-based collection point.

COLLECTION POINT SUMMARY SHEET

INLET: **Barnegat Inlet, Ocean County, New Jersey**

COLLECTION POINT: CP5

DATE: 29 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Landward side of flood-tidal delta

SHORELINE DESCRIPTION:

N/A

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Flood currents probably not much greater than 1.0 kt. Ebb currents could be stronger.

ACCESS:

By boat

PROPOSED EQUIPMENT:

Approximately 3,000 feet of deflection boom; 30 anchor sets, minimum. Approximately 3,500 feet of protection boom; 35 anchor sets, minimum. Skimmer/barge system.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Not a land-based collection point.

COLLECTION POINT SUMMARY SHEET

INLET: **Barnegat Inlet, Ocean County, New Jersey**

COLLECTION POINT: CP6

DATE: 29 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Landward end of the north jetty

SHORELINE DESCRIPTION:

Sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Measured maximum flood currents of around 2.5 knots. Possible back eddy area.

ACCESS:

By boat

PROPOSED EQUIPMENT:

Approximately 1,000 feet of deflection boom; 10 anchor sets, minimum. Skimmer/ barge system.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Possibly a good natural collection point because of back eddy.

INLET SUMMARY SHEET

SITE: **Beach Haven Inlet, Atlantic and Ocean Counties, New Jersey**

DATE AND TIME SURVEYED (TIDE):

Observed during overflight on 26 August 1997; 1015 [Low @ 0917 (+0.5); Little Egg Inlet, Great Bay, Outer Coast, Station No. 1739]

The tidal level during the overflight of this inlet was +0.6

RANKING (DEGREE OF DIFFICULTY): (see ranking scale)

A

PRINCIPAL RESOURCES AT RISK:

The marshes which harbor vast numbers of migrating and wintering waterfowl from October through April. During the remaining months, these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors. Tidal flats, submerged aquatic vegetation (eel grass), and several threatened and endangered terrestrial plant species along the outer beaches including beach amaranth, sea-beach milkwort, and seaside crowfoot. Gulls and terns, including the great black-backed gull, herring gull, laughing gull, Forster's tern gull-billed tern, least tern, and roseate tern; raptors, including the bald eagle, peregrine falcon, northern harrier, and osprey; shorebirds, including the black skimmer and piping plover; wading birds, including the black-crowned night heron, cattle egret, glossy ibis, great egret, little blue heron, snowy egret, tricolored heron, and yellow-crowned night heron; and waterfowl, including the American coot, American wigeon, black duck, brant, bufflehead, Canada goose, canvasback, gadwall, goldeneye, green-winged teal, mallard, merganser, mute swan, northern pintail, northern shovelor, oldsquaw, red head, ruddy duck, scaup, scoter, snow goose, and whistling swan (tundra swan). Shellfish, including the blue crab, northern quahog (hard clam), and, in the Mullica River, the American oyster (eastern). Marina and boat ramp facilities, boats, seawalls, revetments, docks, etc. along shores of Little Egg Harbor.

INLET SUMMARY SHEET

SITE: **Beach Haven Inlet, Atlantic and Ocean Counties, New Jersey (continued)**

PRINCIPAL RESOURCES AT RISK: (continued)

Nesting times of threatened and endangered species of concern:

Piping plover	1 May through 1 September
Least tern	1 May through 1 September
Roseate tern	1 May through 1 September
Black skimmer	1 May through 1 September
Osprey	1 March through 1 August
Peregrine falcon	1 March through 1 August
Bald eagle	1 February through 1 August

PRELIMINARY PROTECTION STRATEGY:

All efforts should be made to prevent oil from entering the inlet by conducting offshore oil collection operations. Oil entering this inlet should be collected using open water skimming operations. Deflection and protection boom could be used to prevent oil from entering several of the smaller creek channels of the marsh and keep it in the channel where it can be recovered. Further inside the inlet, in the Intracoastal Waterway, deflection boom could be used to divert oil to collection points against bulkheads of several small marinas/boat basins along the Intracoastal Waterway shoreline in the vicinity of Beach Haven Heights and Holgate (CP3 and CP4).

OTHER COMMENTS:

A table-top exercise was conducted to derive the potential protection strategy.

INLET SUMMARY SHEET

SITE: **Beach Haven Inlet, Atlantic and Ocean Counties, New Jersey (continued)**

GEOMORPHOLOGY:

This inlet and Little Egg Inlet have historically been separate, but are presently one continuous, open inlet. The combined inlets, which are highly unstable, have formed a massive ebb-tidal delta. The Beach Haven channel contains a classically shaped, large flood-tidal delta. Flood currents are probably stronger than ebb currents in this channel.

RESOURCES REQUIRED (IF FULL STRATEGY IS IMPLEMENTED):

Approximately 6,000 feet of deflection boom; 60 anchor sets, minimum. Approximately 1,000 feet of protection boom; 10 anchor sets, minimum. Several open water skimming vessels. For more detailed information, refer to data provided by NRC.

PRIORITY OF DEPLOYMENT:

Open water skimming first, then CP3 and CP4 in that order.

SUGGESTIONS FOR DATA ACQUISITION:

Contact Dr. Gail Ashley, of the Rutgers Geology Department, to see if they have any current data for this inlet. The channel configuration should be determined every two or three years. Any current data would be helpful.

BEACH HAVEN INLET

From USGS 7.5' topographic quads: Brigantine Inlet, New Jersey, published: 1989
and Tuckerton, New Jersey, published: 1952, photorevised: 1972, photoinspected: 1977

SCALE 1 : 24,000

1 .5 0 1
MILES

1 .5 0 1
KILOMETERS

N

BEACH HAVEN INLET

From USGS NAPP: roll #8649, frame #4; April 1995; scale -1:40,000

0 1 2 MILES

Beach Haven Inlet at low tide on 26 August 1997, looking southwest

INLET SKETCH MAP

Inlet Name BEACH HAVEN INLET & LITTLE EGG INLET, NJ

Inlet Number 5 & 6

Recorder(s) MOH/TMM (overflight)

Date/Time 26 AUGUST 1997; 1000

Tide Stage LOW @ 0917 (+0.5)

Inlet Classification A & A

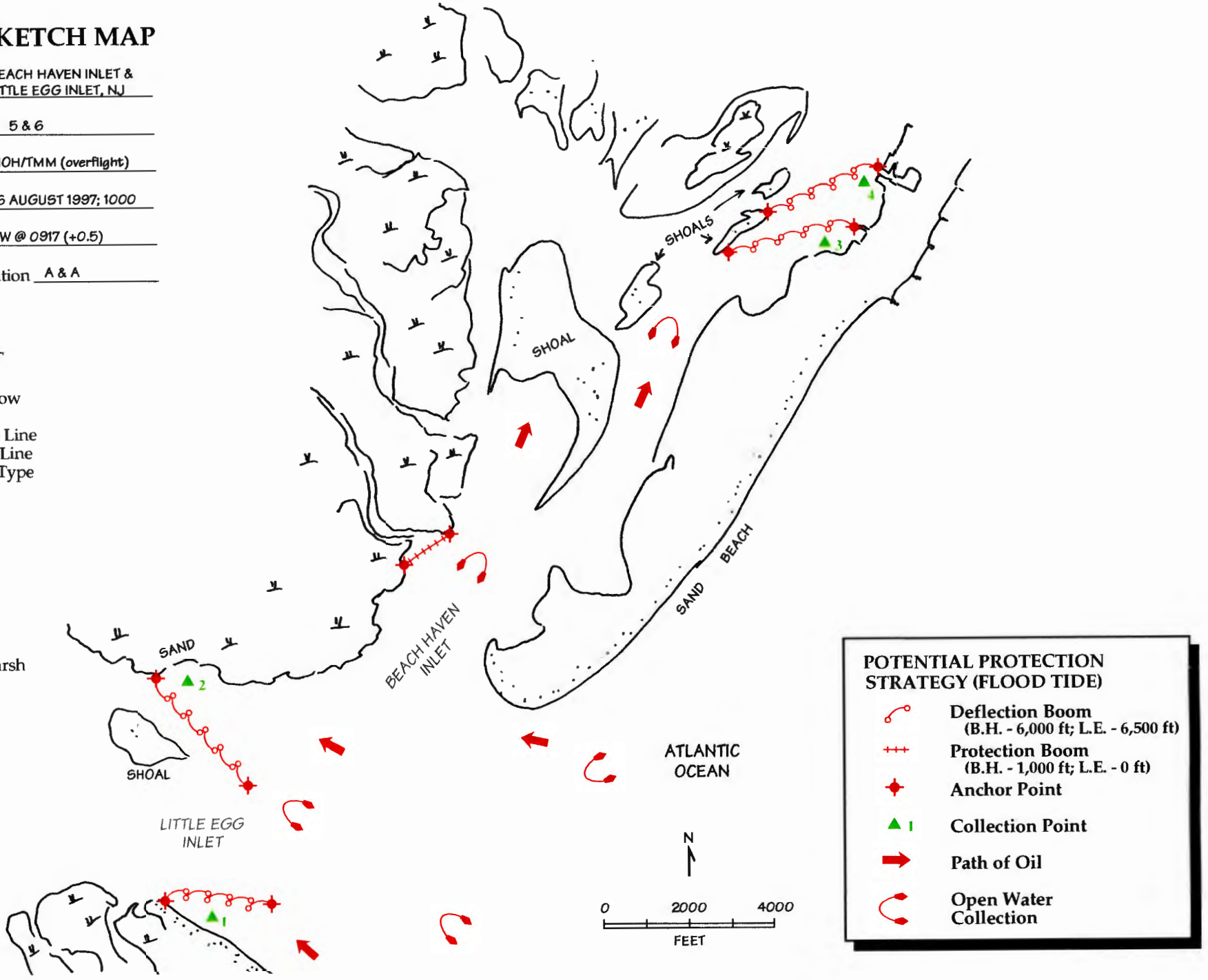
CHECKLIST

- ✓ North Arrow
- ✓ Scale
- ✗ High-Tide Line
- ✗ Low-Tide Line
- ✓ Substrate Type

LEGEND

Salt-Water Marsh

Riprap



COLLECTION POINT SUMMARY SHEET

INLET: **Beach Haven Inlet, Atlantic and Ocean Counties, New Jersey**

COLLECTION POINT: Open Water Collection

DATE: 26 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Approximately one mile southeast of Beach Haven Heights

SHORELINE DESCRIPTION:

N/A

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No current data are available. Maximum flood currents are probably around 2.0 knots.

ACCESS:

By boat

PROPOSED EQUIPMENT:

Open water skimming vessels.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Waves could be severe problem in ebb delta region on windy or stormy days. Not a land-based collection site.

COLLECTION POINT SUMMARY SHEET

INLET: **Beach Haven Inlet, Atlantic and Ocean Counties, New Jersey**

COLLECTION POINT: CP3

DATE: 26 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Town of Beach Haven Heights

SHORELINE DESCRIPTION:

Seawall

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No current data are available. Maximum flood currents expected to be 1.0-1.5 knots.

ACCESS:

Take Beach Boulevard south into Beach Haven Heights. On bay shoreline 0.2 miles north of southern end of development.

PROPOSED EQUIPMENT:

Approximately 3,000 feet of deflection boom. Vacuum truck with skimmer head; 30 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Complex developed area. Staging area a problem because of congestion.

COLLECTION POINT SUMMARY SHEET

INLET: **Beach Haven Inlet, Atlantic and Ocean Counties, New Jersey**

COLLECTION POINT: CP4

DATE: 26 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Town of Beach Haven Heights

SHORELINE DESCRIPTION:

Seawall

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No current data are available. Maximum flood currents expected to be 1.0-1.5 knots.

ACCESS:

Take Beach Boulevard south into Beach Haven Heights. On bay shoreline 0.45 miles north of southern end of development.

PROPOSED EQUIPMENT:

Approximately 3,000 feet of deflection boom. Vacuum truck with skimmer head; 30 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Complex developed area. Staging area a problem because of congestion.

INLET SUMMARY SHEET

SITE: **Little Egg Inlet, Atlantic County, New Jersey**

DATE AND TIME SURVEYED (TIDE):

Observed during overflight on 26 August 1997; 1015 [Low @ 0917 (+0.5); Little Egg Inlet, Great Bay, Outer Coast, Station No. 1739]

The tidal level during the overflight of this inlet was +0.6

RANKING (DEGREE OF DIFFICULTY): (see ranking scale)

A

PRINCIPAL RESOURCES AT RISK:

The marshes which harbor vast numbers of migrating and wintering waterfowl from October through April. During the remaining months, these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors. Tidal flats and several threatened and endangered terrestrial plant species along the outer beaches including beach amaranth, sea-beach milkwort, and seaside crowfoot. Gulls and terns, including the great black-backed gull, herring gull, laughing gull, Forster's tern gull-billed tern, least tern, and roseate tern; raptors, including the bald eagle, peregrine falcon, northern harrier, and osprey; shorebirds, including the black skimmer and piping plover; wading birds, including the black-crowned night heron, cattle egret, glossy ibis, great egret, little blue heron, snowy egret, tricolored heron, and yellow-crowned night heron; and waterfowl, including the American coot, American wigeon, black duck, brant, bufflehead, Canada goose, canvasback, gadwall, goldeneye, green-winged teal, mallard, merganser, mute swan, northern pintail, northern shovelor, oldsquaw, red head, ruddy duck, scaup, scoter, snow goose, and whistling swan (tundra swan). Shellfish, including the blue crab, northern quahog (hard clam), and, in the Mullica River, the American oyster (eastern). Revetments, seawalls, etc. along the canals at the head of Great Bay/mouth of the Mullica River (Mystic Island).

INLET SUMMARY SHEET

SITE: **Little Egg Inlet, Atlantic County, New Jersey (continued)**

PRINCIPAL RESOURCES AT RISK: (continued)

Nesting times of threatened and endangered species of concern:

Piping plover	1 May through 1 September
Least tern	1 May through 1 September
Roseate tern	1 May through 1 September
Black skimmer	1 May through 1 September
Osprey	1 March through 1 August
Peregrine falcon	1 March through 1 August
Bald eagle	1 February through 1 August

PRELIMINARY PROTECTION STRATEGY:

All efforts should be made to prevent oil from entering the inlet by conducting offshore oil collection operations. Oil entering the inlet through the southern marginal flood channel can be diverted to a sandy collection point on the outer sand beach (spit) (CP1). However, access to this potential collection point is limited to boat. This may make cleanup operations difficult. Oil entering the inlet should be collected using open water skimming operations. Another potential collection point can be established along the sand beach at the south end of Great Bay Boulevard (adjacent to the U.S. Coast Guard Station ruins [CP2]). A line of deflection boom could be anchored along the shoreline and extended out into Shooting Thorofare. Although not shown in the accompanying sketch, another potential collection point is against the bulkhead at the abandoned fish factory along the shore of Seven Islands and Newmans Thorofare. Access to this location is limited to boat and this may make cleanup operations difficult.

INLET SUMMARY SHEET

SITE: **Little Egg Inlet, Atlantic County, New Jersey (continued)**

OTHER COMMENTS:

The marsh system on the south side of the inlet is part of the Edwin B. Forsythe National Wildlife Refuge.

A table-top exercise was conducted to derive the potential protection strategy.

GEOMORPHOLOGY:

This inlet is the southwest limb of the merged inlet complex that was formerly two separate inlets (Beach Haven and Little Egg). This inlet appears to be more ebb dominant than Beach Haven, though there are some flood-formed shoals in the main channel.

RESOURCES REQUIRED (IF FULL STRATEGY IS IMPLEMENTED):

Approximately 6,500 feet of deflection boom; 65 anchor sets, minimum. One or two skimmer/barge systems. One vacuum truck. Several open water skimming vessels. For more detailed information, refer to data provided by NRC.

PRIORITY OF DEPLOYMENT:

Open water skimming is first priority. Establish CP2 before CP1.

SUGGESTIONS FOR DATA ACQUISITION:

Contact Dr. Gail Ashley, of the Rutgers Geology Department, to see if they have any current data for this inlet. The channel configuration should be determined every two or three years. Any current data would be helpful.

LITTLE EGG INLET

From USGS 7.5' topographic quads: Brigantine Inlet, New Jersey, published: 1989
and Tuckerton, New Jersey, published: 1952, photorevised: 1972, photoinspected: 1977

SCALE 1 : 24,000

1 .5 0 1
MILES

1 .5 0 1
KILOMETERS

N

LITTLE EGG INLET

From USGS NAPP· roll #8649, frame #4; April 1995; scale -1:40,000

0 1 2 MILES

Little Egg Inlet at low tide on 26 August 1997, looking northwest

INLET SKETCH MAP

Inlet Name BEACH HAVEN INLET & LITTLE EGG INLET, NJ

Inlet Number 5 & 6

Recorder(s) MOH/TMM (overflight)

Date/Time 26 AUGUST 1997; 1000

Tide Stage LOW @ 0917 (+0.5)

Inlet Classification A & A

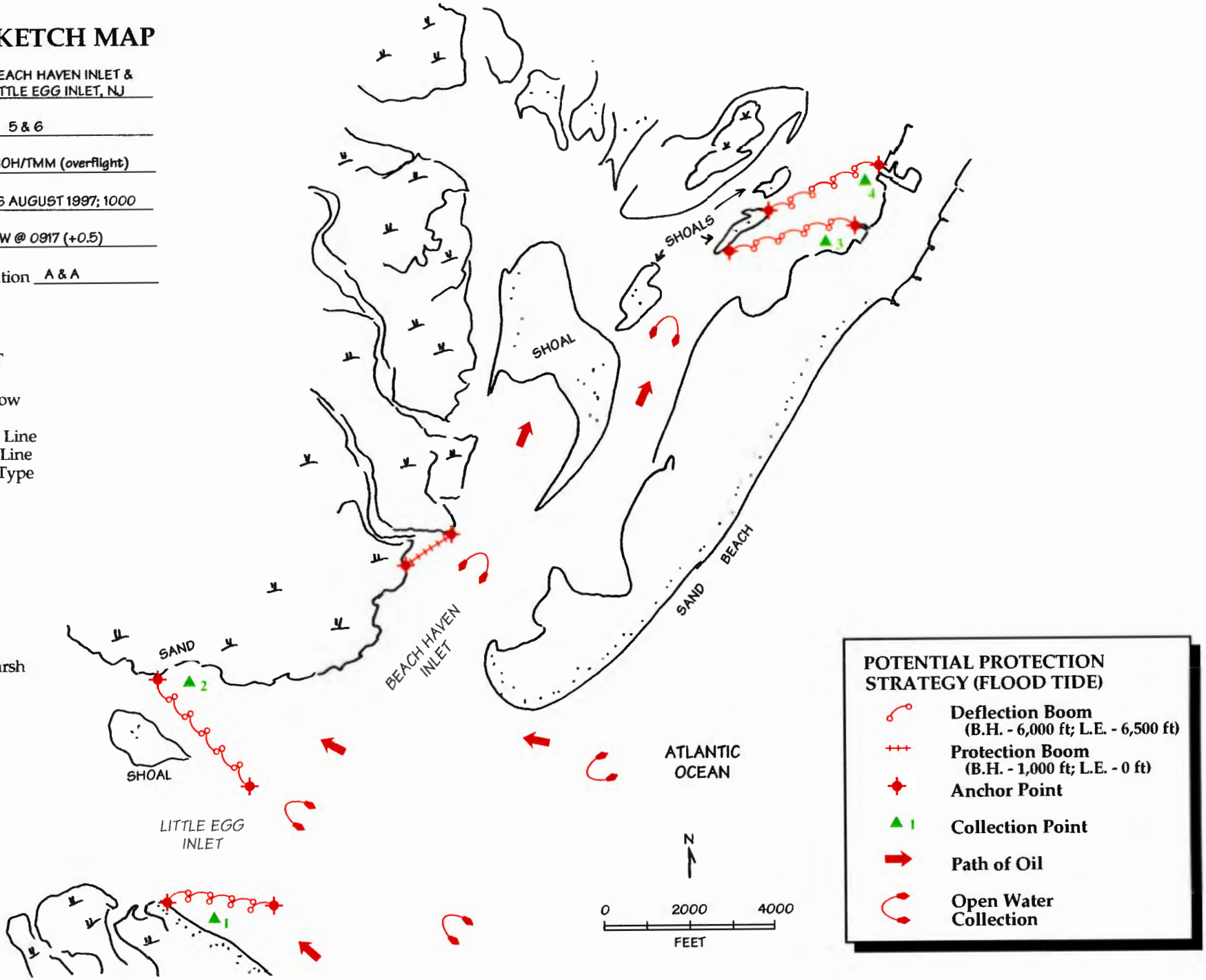
CHECKLIST

✔ North Arrow
✔ Scale
✗ High-Tide Line
✗ Low-Tide Line
✔ Substrate Type

LEGEND

Salt-Water Marsh

Riprap



COLLECTION POINT SUMMARY SHEET

INLET: **Little Egg Inlet, Atlantic County, New Jersey**

COLLECTION POINT: CP1

DATE: 26 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Approximately four (4) miles southeast of Beach Haven Heights

SHORELINE DESCRIPTION:

N/A

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No current data are available. Maximum flood currents probably greater than 2.0 knots.

ACCESS:

By boat

PROPOSED EQUIPMENT:

Open water skimming vessels.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Waves could be severe problem in ebb delta region on windy or stormy days. Not a land-based collection site.

COLLECTION POINT SUMMARY SHEET

INLET: **Little Egg Inlet, Atlantic County, New Jersey**

COLLECTION POINT: Open Water

DATE: 26 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

About four (4) miles south of Beach Haven Heights. North end of spit on south side of inlet. Across southern marginal flood channel.

SHORELINE DESCRIPTION:

Sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No measurements available. Flood currents up to 1.5-2.0 knots probable. Ebb currents relatively weak.

ACCESS:

By boat

PROPOSED EQUIPMENT:

Approximately 2,500 feet of deflection boom; 25 anchor sets, minimum. Skimmer/ barge system.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Access difficult because of shallow water. Will not work under high wave conditions. Not a land-based collection site.

COLLECTION POINT SUMMARY SHEET

INLET: **Little Egg Inlet, Atlantic County, New Jersey**

COLLECTION POINT: CP2

DATE: 26 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

At south end of Great Bay Boulevard, east of Coast Guard Station ruins

SHORELINE DESCRIPTION:

Sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No measurements available. Flood currents to 1.5+ knots probable.

ACCESS:

Take Route #9 south to Great Bay Boulevard. Go south to end of road (approximately 7 miles).

PROPOSED EQUIPMENT:

Approximately 4,000 feet of deflection boom. Vacuum truck with skimmer head; 40 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Use of vacuum truck depends on proximity of collection site to road. If distance is too far, skimmer/barge system will have to be used.

INLET SUMMARY SHEET

SITE: **Brigantine Inlet, Atlantic County, New Jersey**

DATE AND TIME SURVEYED (TIDE):

Observed during overflight on 26 August 1997; 1015 [Low @ 0923 (+0.5) Brigantine Channel, Outer Coast, Station No. 1755]

The tidal stage during the overflight of this inlet was +0.7

RANKING (DEGREE OF DIFFICULTY): (see ranking scale)

A

PRINCIPAL RESOURCES AT RISK:

The marshes which harbor vast numbers of migrating and wintering waterfowl from October through April. During the remaining months, these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors. Tidal flats and several threatened and endangered terrestrial plant species along the outer beaches including beach amaranth, sea-beach milkwort, and seaside crowfoot. Gulls and terns, including the great black-backed gull, herring gull, laughing gull, Forster's tern and least tern; raptors, including the bald eagle, peregrine falcon, and osprey; shorebirds, including the black skimmer and piping plover; wading birds, including the black-crowned night heron, cattle egret, glossy ibis, great egret, little blue heron, snowy egret, tricolored heron, and yellow-crowned night heron; and waterfowl, including the American coot, American wigeon, black duck, brant, bufflehead, Canada goose, canvasback, gadwall, goldeneye, green-winged teal, mallard, merganser, mute swan, northern pintail, northern shovelor, oldsquaw, red head, ruddy duck, scaup, scoter, snow goose, and whistling swan (tundra swan). Shellfish, including the blue crab, northern quahog (hard clam), and, in the Mullica River, the American oyster (eastern). Revetments, seawalls, etc. along the canals at the head of Great Bay/mouth of the Mullica River (Mystic Island).

INLET SUMMARY SHEET

SITE: **Brigantine Inlet, Atlantic County, New Jersey (continued)**

PRINCIPAL RESOURCES AT RISK: (continued)

Nesting times of threatened and endangered species of concern:

Piping plover	1 May through 1 September
Least tern	1 May through 1 September
Roseate tern	1 May through 1 September
Black skimmer	1 May through 1 September
Osprey	1 March through 1 August
Peregrine falcon	1 March through 1 August
Bald eagle	1 February through 1 August

PRELIMINARY PROTECTION STRATEGY:

All efforts should be made to prevent oil from entering Brigantine Inlet by conducting offshore oil collection operations. If oil enters the inlet, deflection boom should be used to divert oil to open water skimmers situated in Little Mud Thorofare and Brigantine Channel. Also, there is a washover terrace just south of the inlet that can be closed with a sand dike, if necessary.

OTHER COMMENTS:

The marsh system is part of the Edwin B. Forsythe National Wildlife Refuge. The channels in this area are rather shallow and numerous shoals are present which may disrupt cleanup operations.

A table-top exercise was conducted to derive the potential protection strategy.

INLET SUMMARY SHEET

SITE: **Brigantine Inlet, Atlantic County, New Jersey (continued)**

GEOMORPHOLOGY:

A natural, uncontrolled inlet, Brigantine appears to be somewhat wave dominated. The ebb-tidal delta is relatively small and close in to shore. Maximum tidal currents average around two knots, with little symmetry. Shoals created by flood currents choke both of the main channels that merge to form the inlet.

RESOURCES REQUIRED (IF FULL STRATEGY IS IMPLEMENTED):

Approximately 10,000 feet of deflection boom; 100 anchor sets, minimum. Approximately 6,500 feet of protection boom; 65 anchor sets, minimum. Three skimmer/barge systems. For more detailed information, refer to data provided by NRC.

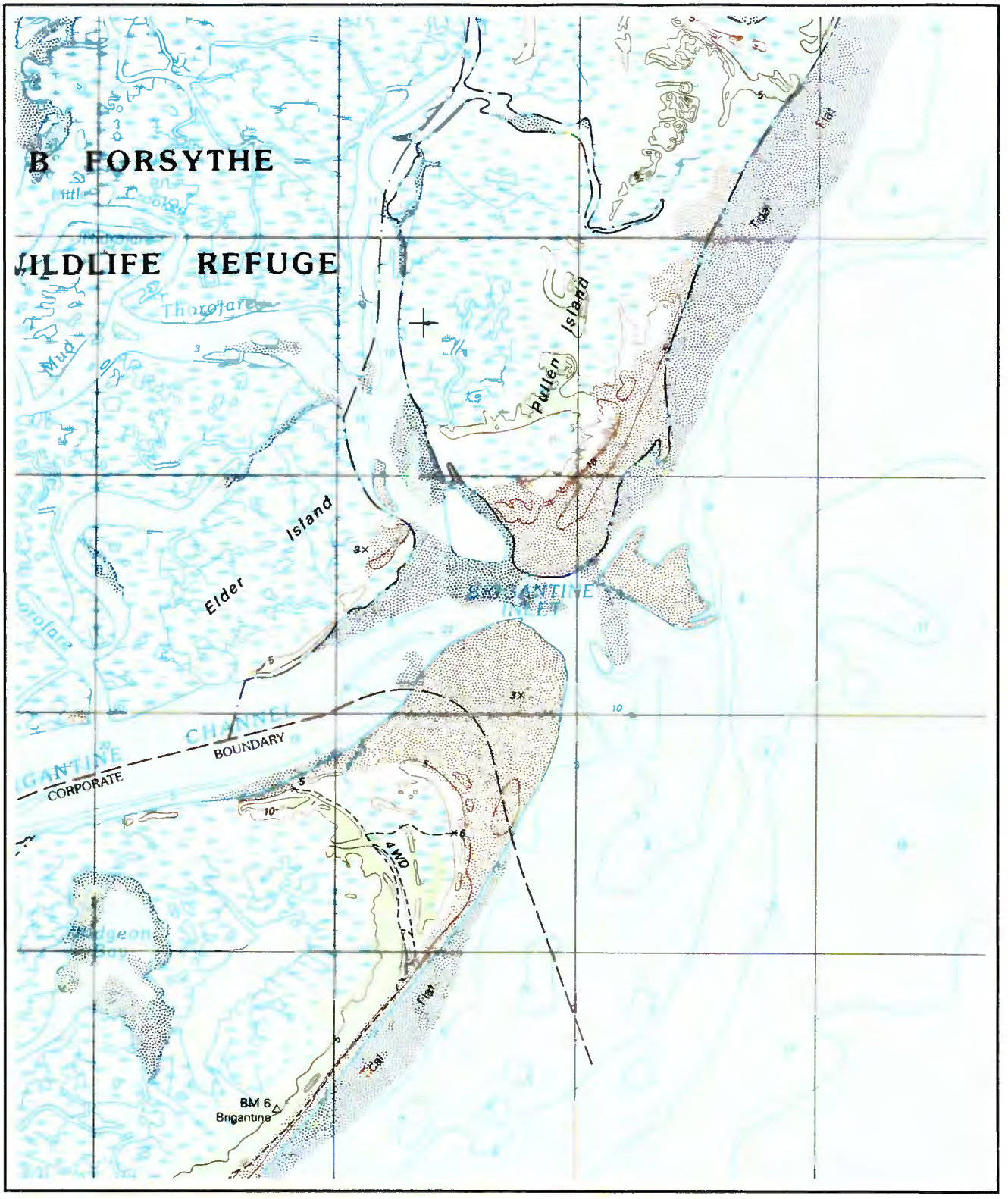
PRIORITY OF DEPLOYMENT:

CP1 and CP3 at same time. CP2 is a back-up for CP1 because of the stronger currents in that channel.

SUGGESTIONS FOR DATA ACQUISITION:

Tidal current data are pretty good for this inlet. The main issue is monitoring the changing shapes, depths, and general morphology of the inlet throat and associated channels.

BRIGANTINE INLET



From USGS 7.5' topographic quad: Brigantine Inlet, New Jersey, published: 1989

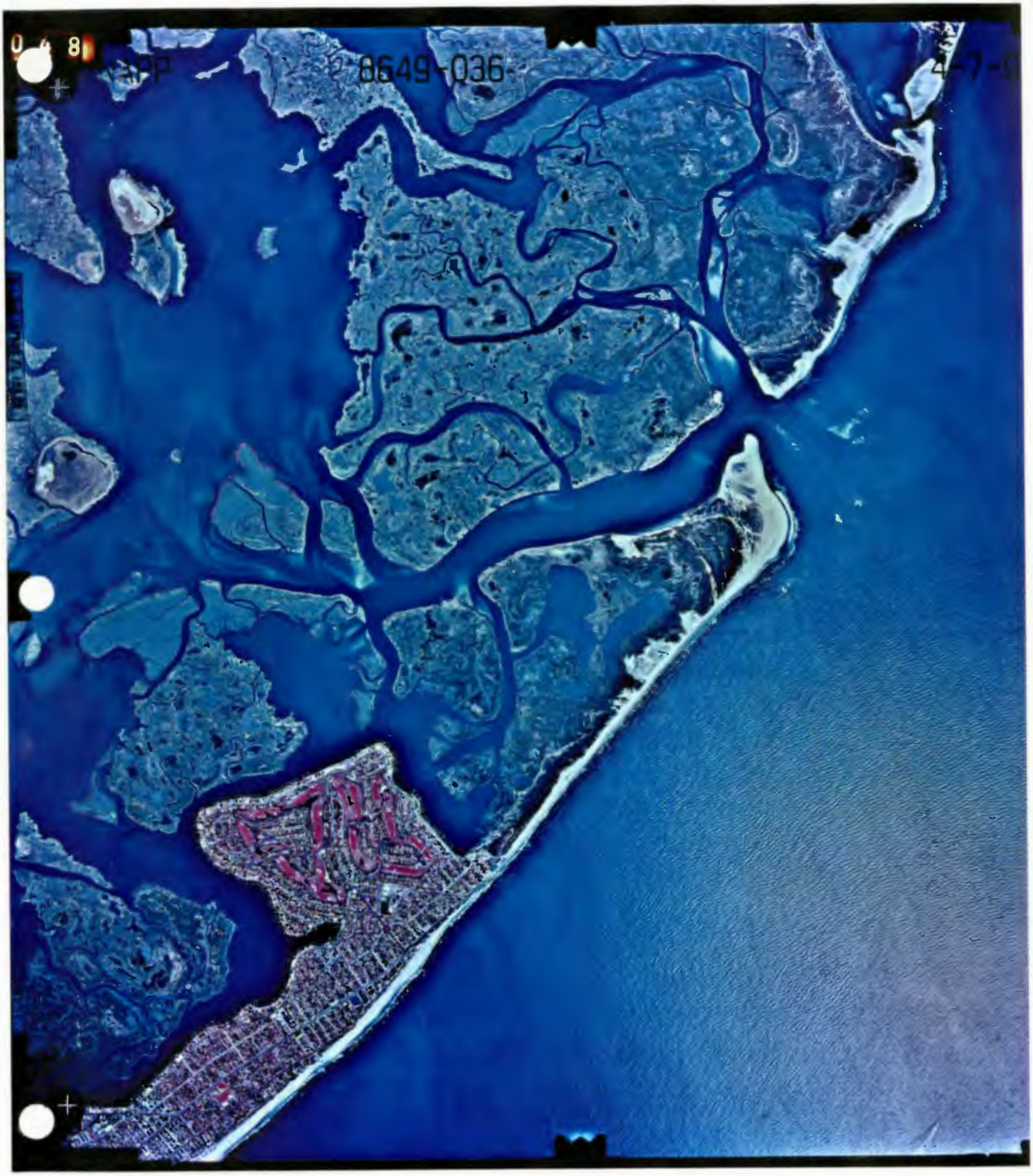
SCALE 1 : 24,000

1 .5 0 1
MILES

1 .5 0 1
KILOMETERS

N

BRIGANTINE INLET



From USGS NAPP: roll #8649, frame #36; April 1995; scale -1:40,000

0 1 2 MILES

Brigantine Inlet at low tide on 26 August 1997, looking west

Washover terrace south of Brigantine Inlet at low tide on 26 August 1997, looking north

INLET SKETCH MAP

Inlet Name BRIGANTINE INLET, NJ

Inlet Number 7

Recorder(s) MOH/TMM (overflight)

Date/Time 26 AUGUST 1997; 1015

Tide Stage LOW @ 0923 (+0.5)

Inlet Classification A

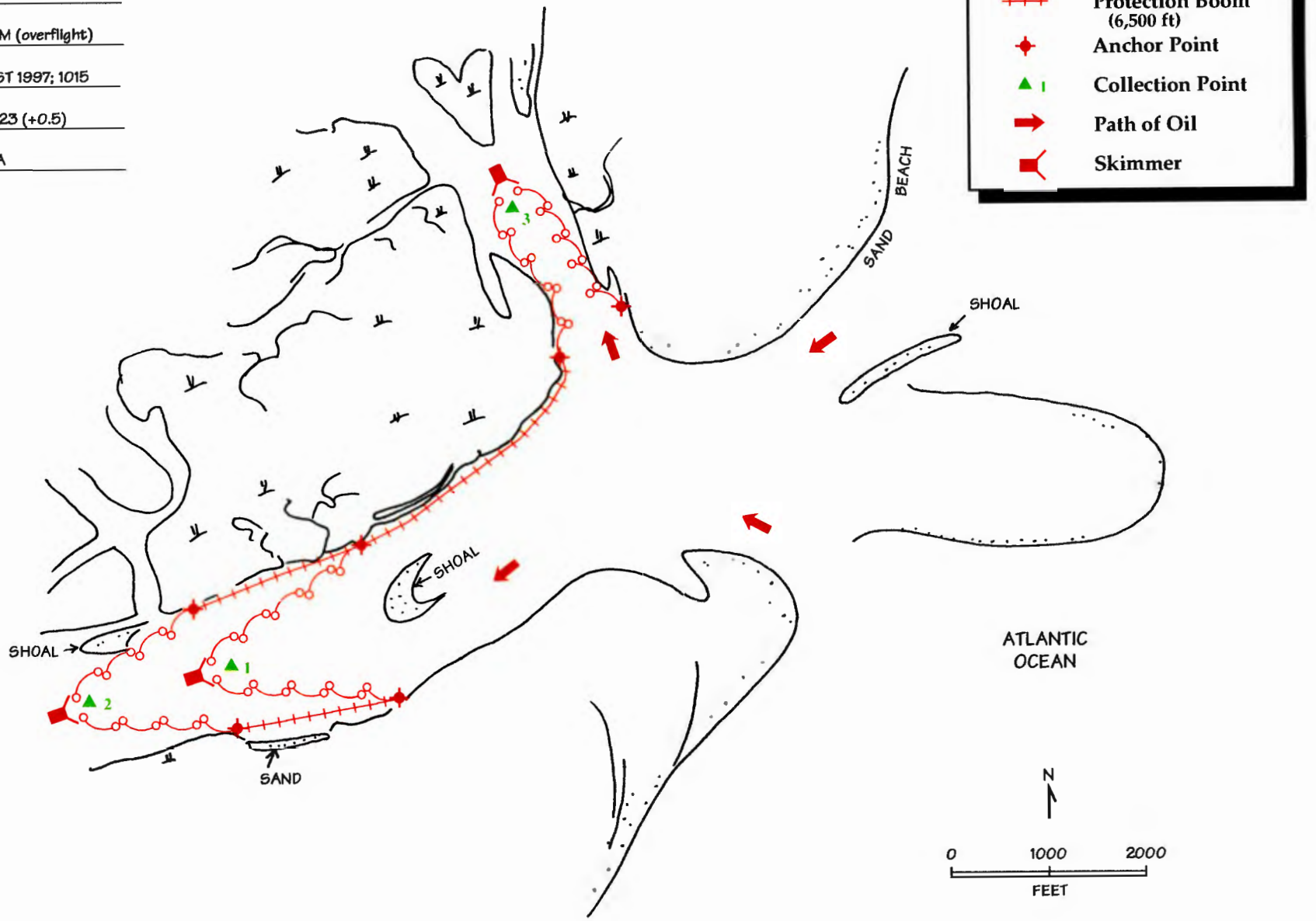
CHECKLIST

✓ North Arrow
✓ Scale
✗ High-Tide Line
✗ Low-Tide Line
✓ Substrate Type

LEGEND

Salt-Water Marsh

Riprap



COLLECTION POINT SUMMARY SHEET

INLET: **Brigantine Inlet, Atlantic County, New Jersey**

COLLECTION POINT: CP1

DATE: 26 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

About three (3) miles northeast of the town of Brigantine. In western arm of inlet (Brigantine Channel).

SHORELINE DESCRIPTION:

N/A

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Measured maximum tidal currents east of this location in the same channel were 2.6 knots on flood and 2.1 knots on ebb.

ACCESS:

By boat

PROPOSED EQUIPMENT:

Approximately 4,000 feet of deflection boom; 40 anchor sets, minimum. Approximately 3,000 feet of protection boom; 30 anchor sets, minimum. Skimmer/barge system.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Strong flood currents and changing shoals. Not a land-based collection site.

COLLECTION POINT SUMMARY SHEET

INLET: **Brigantine Inlet, Atlantic County, New Jersey**

COLLECTION POINT: CP2

DATE: 26 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

About three (3) miles northeast of the town of Brigantine. In western arm of inlet (Brigantine Channel).

SHORELINE DESCRIPTION:

N/A

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Measured maximum tidal currents east of this location in the same channel were 2.6 knots on flood and 2.1 knots on ebb.

ACCESS:

By boat

PROPOSED EQUIPMENT:

Approximately 3,000 feet of deflection boom; 30 anchor sets, minimum. Approximately 3,500 feet of protection boom; 35 anchor sets, minimum. Skimmer/barge system.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Strong flood currents and changing shoals. Not a land-based collection site.

COLLECTION POINT SUMMARY SHEET

INLET: **Brigantine Inlet, Atlantic County, New Jersey**

COLLECTION POINT: CP3

DATE: 26 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

About three (3) miles northeast of the town of Brigantine. In western arm of inlet (Brigantine Channel).

SHORELINE DESCRIPTION:

N/A

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Measured maximum tidal currents were 1.7 knots on flood and 1.9 knots on ebb.

ACCESS:

By boat

PROPOSED EQUIPMENT:

Approximately 3,000 feet of deflection boom; 30 anchor sets, minimum. Skimmer/ barge system.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Large shoal in channel. Not a land-based collection site.

INLET SUMMARY SHEET

SITE: **Absecon Inlet, Atlantic County, New Jersey**

DATE AND TIME SURVEYED (TIDE):

28 August 1997; 1100 [Low @ 1103 (+0.6); Absecon Channel, Outer Coast, Station No. 1763]

RANKING (DEGREE OF DIFFICULTY): (see ranking scale)

C (B during extremely adverse conditions)

PRINCIPAL RESOURCES AT RISK:

The marshes which harbor vast numbers of migrating and wintering waterfowl from October through April. During the remaining months, these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors. Tidal flats. Gulls and terns, including the great black-backed gull, herring gull, laughing gull, Forster's tern and least tern; raptors, including the bald eagle, peregrine falcon, and osprey; shorebirds, including the black skimmer and piping plover; wading birds, including the black-crowned night heron, glossy ibis, great egret, little blue heron, snowy egret, tricolored heron, and yellow-crowned night heron; and waterfowl, including the American coot, American wigeon, black duck, brant, bufflehead, Canada goose, canvasback, gadwall, goldeneye, green-winged teal, mallard, merganser, mute swan, northern pintail, northern shovelor, oldsquaw, scaup, and whistling swan (tundra swan). Shellfish, including the blue crab and northern quahog (hard clam). Marina and boat ramp facilities, boats, seawalls, revetments, docks, etc. along the landward shores of the barrier islands in the vicinity of Atlantic City, Ventor Heights, and Brigantine.

Nesting times of threatened and endangered species of concern:

Piping plover	1 May through 1 September
Least tern	1 May through 1 September
Roseate tern	1 May through 1 September

INLET SUMMARY SHEET

SITE: **Absecon Inlet, Atlantic County, New Jersey (continued)**

PRINCIPAL RESOURCES AT RISK: (continued)

Black skimmer	1 May through 1 September
Osprey	1 March through 1 August
Peregrine falcon	1 March through 1 August
Bald eagle	1 February through 1 August

PRELIMINARY PROTECTION STRATEGY:

Inside the inlet, along the northern margin of the main channel, a Christmas tree configuration of deflection boom should be deployed so that the northern limb diverts oil to a sandy collection point along the inlet shoreline (CP1) and the southern limb to the northern abutment of the State Route 87 bridge (CP2). Protection boom should be used to close off the entrance to the channel at Rum Point. Along the southern margin of the main channel, two lines of deflection boom should be anchored to the inlet shoreline and extended into the channel to divert oil to collection points against the bulkhead along the inlet shoreline (CP5) along the sand beach beneath the boardwalk (CP6). A Christmas tree configuration of deflection boom should be anchored in the main channel, seaward of the State Route 87 bridge so that the northern limb diverts oil to CP2 and the southern limb to a sandy collection point at the southern State Route 87 bridge abutment (CP4). Deflection boom should be anchored to the mainland on the seaward side of the bridge and divert oil to an open water skimmer situated in Absecon Channel (CP3).

OTHER COMMENTS:

The marsh system is part of the Edwin B. Forsythe National Wildlife Refuge and the Absecon State Wildlife Management Area.

INLET SUMMARY SHEET

SITE: **Absecon Inlet, Atlantic County, New Jersey (continued)**

GEOMORPHOLOGY:

Stabilized channel with many potential collection points down the long entrance. One reason for this is the major offset of the southwest side of the inlet, caused by long-term accretion in the Atlantic City area. Dominant longshore sand transport is clearly northeast to southwest. No current data was available to us, but the massive complex of marshes landward of the inlet, probably growing on a flood-tidal delta base, indicates that flood currents may dominate this inlet.

RESOURCES REQUIRED (IF FULL STRATEGY IS IMPLEMENTED):

Approximately 14,500 feet of deflection boom; 145 anchor sets, minimum. Approximately 1,500 feet of protection boom; 15 anchor sets, minimum. Five vacuum trucks with skimmer head and one skimmer/barge system. For more detailed information, refer to data provided by NRC.

PRIORITY OF DEPLOYMENT:

Establish CP2 and CP4 simultaneously. Next CP3 and then CP1, CP5, and CP6 in that order.

SUGGESTIONS FOR DATA ACQUISITION:

Obtain the tidal current data from the Corps of Engineers and analyze it for location of peak velocities within the main channel.

ABSECON INLET

From USGS 7.5' topographic quads: Atlantic City, New Jersey, published: 1989; and Oceanville, New Jersey, published: 1989

SCALE 1 : 24,000

1 .5 0 1
MILES

1 .5 0 1
KILOMETERS

N

Absecon Inlet at low tide on 26 August 1997, looking south

INLET SKETCH MAP

Inlet Name ABSECON INLET, NJ

Inlet Number 8

Recorder(s) MOH/TMM/EL/MS/BG/PR/PM/JC/RDS/FM/KS/DJ/CS/BA/ES

Date/Time 28 AUGUST 1997; 1100

Tide Stage LOW @ 1103 (+0.6)

Inlet Classification C

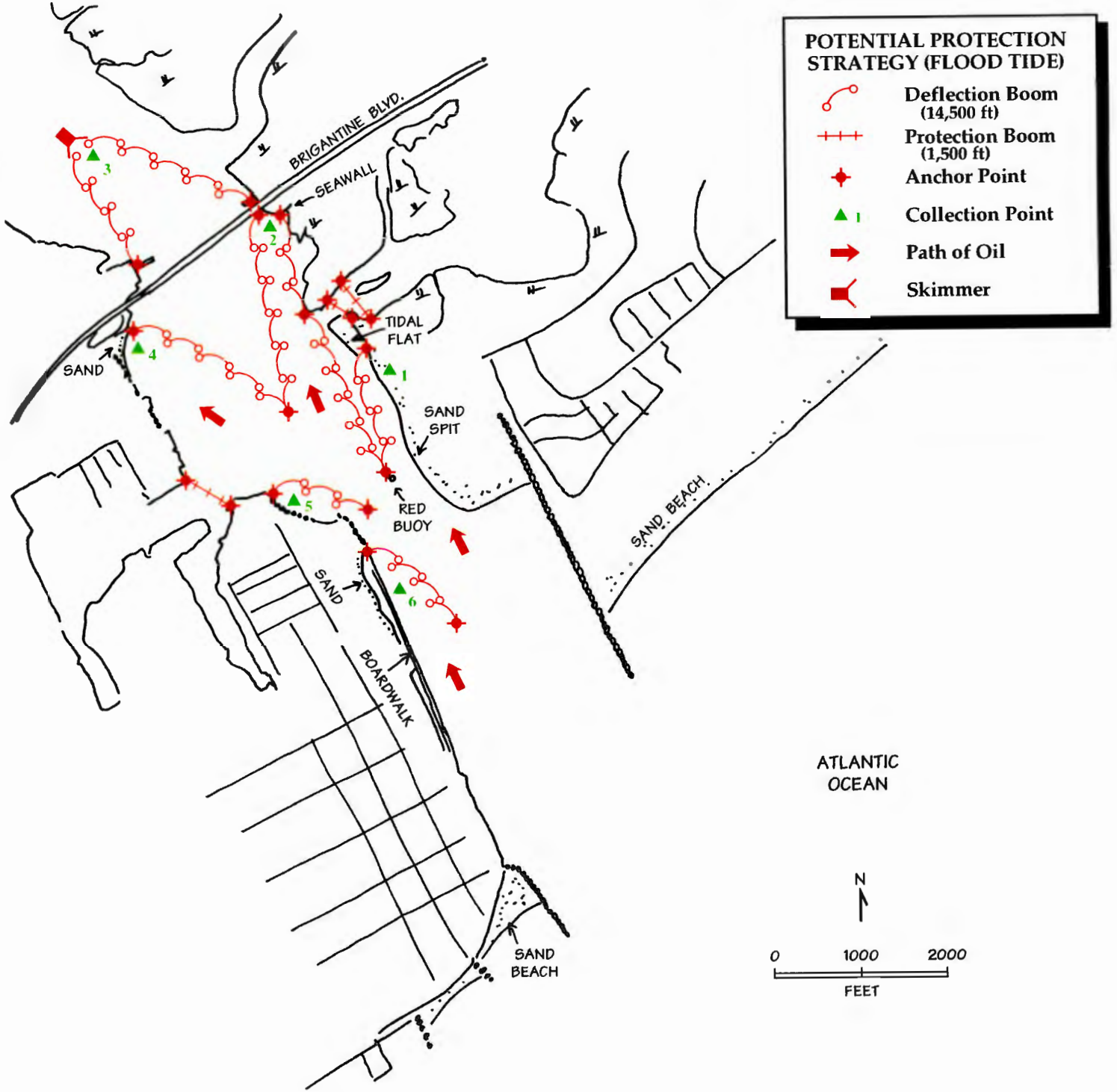
CHECKLIST

- ✔ North Arrow
- ✔ Scale
- ✗ High-Tide Line
- ✗ Low-Tide Line
- ✔ Substrate Type

LEGEND

Salt-Water Marsh

Riprap



COLLECTION POINT SUMMARY SHEET

INLET: **Absecon Inlet, Atlantic County, New Jersey**

COLLECTION POINT: CP1

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

On sand bulge on north shoreline of inlet

SHORELINE DESCRIPTION:

Sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available, but expect maximum flood currents of 2-3 knots.

ACCESS:

From Atlantic City, go north on Route #87 to Harbor Beach Boulevard. Take right onto Harbor Beach Boulevard; go to end of paved road. Follow the dirt road to collection point.

PROPOSED EQUIPMENT:

Approximately 1,500 feet of deflection boom. Vacuum truck with skimmer head; 15 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Have to drive on unmaintained dirt road to collection point.

COLLECTION POINT SUMMARY SHEET

INLET: **Absecon Inlet, Atlantic County, New Jersey**

COLLECTION POINT: CP2

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Against seawall below east end of Brigantine Boulevard bridge

SHORELINE DESCRIPTION:

Seawall

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available, but expect strong flood and ebb currents (2-3 knots).

ACCESS:

From Atlantic City go north on Route #87. Take first right after crossing bridge across inlet channel.

PROPOSED EQUIPMENT:

Approximately 5,000 feet of deflection boom; 50 anchor sets, minimum. Vacuum truck with skimmer head. Approximately 1,000 feet of protection boom; 10 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Protection boom is for closing-off tidal channel entering main channel at Rum Point. Staging area in road under bridge.

COLLECTION POINT SUMMARY SHEET

INLET: **Absecon Inlet, Atlantic County, New Jersey**

COLLECTION POINT: CP3

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

In main channel on landward side of Brigantine Boulevard bridge

SHORELINE DESCRIPTION:

N/A

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available, but expect maximum flood currents of at least 2 knots.

ACCESS:

By boat

PROPOSED EQUIPMENT:

Approximately 3,500 feet of deflection boom; 35 anchor sets, minimum. Skimmer/ barge system.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Not a land-based collection point.

COLLECTION POINT SUMMARY SHEET

INLET: **Absecon Inlet, Atlantic County, New Jersey**

COLLECTION POINT: CP4

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Shoreline just south of the west end of Brigantine Boulevard bridge

SHORELINE DESCRIPTION:

Sand beach and seawall

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available, but expect flood currents of at least 2 knots out in channel. Weaker currents and possible back eddy at shoreline.

ACCESS:

From Atlantic City, take Route #87 north. Take last right exit before bridge.

PROPOSED EQUIPMENT:

Approximately 2,000 feet of deflection boom; 20 anchor sets, minimum. Approximately 500 feet of protection boom; 5 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Protection boom used to close the entrance to Clam Creek. Good collection site because of weaker currents. Good staging area in bare field or in frontage/feeder/access road.

COLLECTION POINT SUMMARY SHEET

INLET: **Absecon Inlet, Atlantic County, New Jersey**

COLLECTION POINT: CP5

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Approximately 1,250 feet beyond north end of boardwalk on south side of inlet channel

SHORELINE DESCRIPTION:

Bulkhead and riprap

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available, but collection point is out of main current flow, especially during the flood (there may be a back eddy). Probably experiences strong currents during the ebb.

ACCESS:

From within Atlantic City, go to road that leads to mouth of Clam Creek.

PROPOSED EQUIPMENT:

Approximately 1,000 feet of deflection boom; 10 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Probably good natural collection site – back eddy of flood current.

COLLECTION POINT SUMMARY SHEET

INLET: **Absecon Inlet, Atlantic County, New Jersey**

COLLECTION POINT: CP6

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

In Atlantic City at the north end of the boardwalk on southeast side of inlet

SHORELINE DESCRIPTION:

Sand beach below and landward of boardwalk

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available, but expect flood and ebb currents greater than 2.0 knots.

ACCESS:

From within Atlantic City, go north on Maine Avenue to end (at boardwalk).

PROPOSED EQUIPMENT:

Approximately 1,500 feet of deflection boom; 15 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Difficult staging area because of congestion. Boardwalk pilings a possible hindrance to collection.

INLET SUMMARY SHEET

SITE: **Great Egg Harbor Inlet, Cape May and Atlantic Counties, New Jersey**

DATE AND TIME SURVEYED (TIDE):

28 August 1997; 0830 [Low @ 1109 (+0.6); Great Egg Harbor Inlet, outer coast, Station No. 1777]

The tidal level during the site survey was +2.0

RANKING (DEGREE OF DIFFICULTY): (see ranking scale)

A/B

PRINCIPAL RESOURCES AT RISK:

The marshes which harbor vast numbers of migrating and wintering waterfowl from October through April. During the remaining months, these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors. Tidal flats. Gulls and terns, including the great black-backed gull, herring gull, laughing gull, Forster's tern and least tern; raptors, including the bald eagle, northern harrier, osprey, and peregrine falcon; shorebirds, including the black skimmer and piping plover; wading birds, including the black-crowned night heron, glossy ibis, great egret, snowy egret, and tricolored heron; and waterfowl, including the American coot, American wigeon, black duck, brant, bufflehead, Canada goose, canvasback, gadwall, green-winged teal, goldeneye, mallard, merganser, mute swan, northern pintail, oldsquaw, scaup, scoter, and whistling swan (tundra swan). Shellfish, including the American oyster (eastern) and blue crab. Marina and boat ramp facilities, boats, seawalls, revetments, docks, etc. along the shores of Great Egg Harbor Bay.

Nesting times of threatened and endangered species of concern:

Piping plover	1 May through 1 September
Least tern	1 May through 1 September
Roseate tern	1 May through 1 September
Black skimmer	1 May through 1 September

INLET SUMMARY SHEET

SITE: **Great Egg Harbor Inlet, Cape May and Atlantic Counties, New Jersey (continued)**

PRINCIPAL RESOURCES AT RISK: (continued)

Osprey	1 March through 1 August
Peregrine falcon	1 March through 1 August
Bald eagle	1 February through 1 August

PRELIMINARY PROTECTION STRATEGY:

Under ideal conditions, divert oil entering the inlet through the southern marginal flood channel to a collection point along the outer beach (CP11). This should not be done when plovers and terns are nesting on the outer beaches (April-August). Inside the inlet, the main channel bifurcates and flows north up to Risley Channel and south to Ship Channel and Great Egg Harbor Bay. Anchor a Christmas tree configuration of deflection boom in the northern branch of the main channel so that the northwestern limb diverts oil to a collection point along the shoreline adjacent to Seaview Harbor (CP5) and the southeastern limb diverts oil past the entrance to the boat basin. Protection boom should be deployed along the shoreline fronting Ocean Drive (State Route 152) to prevent the oil from fouling the fringing marsh and from entering the channel leading to a more extensive marsh on the landward side of State Route 152. A line of deflection boom should be anchored to the seawall on the landward side of the north spit (Longport) and extended into the northern branch of the main channel to take advantage of a naturally occurring back eddy and to divert oil to a collection point against the seawall (CP1). Another small section of boom should be deployed up-current of CP1 to keep the oil contained within this natural collection area. Another Christmas tree configuration should be anchored in the northern branch of the main channel, seaward of the State Route 152 bridge so that the northwestern limb diverts oil to a sandy collection point along the shoreline beneath the west end of the bridge (CP4) and the southeastern limb to a collection point against the seawall in the vicinity of Veterans Park (CP2). Another line of deflection boom could be anchored to the seawall

INLET SUMMARY SHEET

SITE: **Great Egg Harbor Inlet, Cape May and Atlantic Counties, New Jersey (continued)**

PRELIMINARY PROTECTION STRATEGY: (continued)

on the landward side of the bridge, extend into the Intracoastal Waterway, and divert oil to a collection point against the seawall (CP3). Another Christmas tree configuration should be anchored in the southern branch of the main channel on the seaward side of the State Route 152 bridge so that the north limb diverts oil to a sandy collection point at the north end of the bridge (CP6) and the south limb to a collection point against the seawall in The Lagoon (CP9). A line of deflection boom should be anchored to the bridge and divert oil to a collection point against the seawall along the Great Egg Harbor Bay shoreline (CP10). Another line of deflection boom should be anchored to the seawall along the Great Egg Harbor Bay and extended into the Intracoastal Waterway channel to divert oil to a collection point against the seawall (CP8). Deflection boom could be anchored to the bridge and divert oil to an open water skimmer situated in the southern branch of the main channel (CP7).

OTHER COMMENTS:

The marsh system west of the Garden State Parkway and Route 9 are part of the Lester G. Macnamara State Wildlife Management Area. The Cape May County Engineers office says that the bridges spanning the inlet are structurally compromised and that it may not be safe to drive heavy loads over them. This may affect the deployment of response equipment and alternate routes to staging, deployment, and collection points should be devised.

GEOMORPHOLOGY:

Wide, apparently stable inlet with terminal groins on both sides. It has a relatively large ebb-tidal delta and no conspicuous flood-tidal deltas, which indicates ebb dominance. Wave action is a major problem in the entrance area. Well defined marginal flood channels north and south (compare with Figure 3).

INLET SUMMARY SHEET

SITE: **Great Egg Harbor Inlet, Cape May and Atlantic Counties, New Jersey (continued)**

RESOURCES REQUIRED (IF FULL STRATEGY IS IMPLEMENTED):

Approximately 27,500 feet of deflection boom; 275 anchor sets, minimum. Approximately 3,500 feet of protection boom; 35 anchor sets, minimum. Ten vacuum trucks with skimmer heads and one skimmer/barge system. For more detailed information, refer to data provided by NRC.

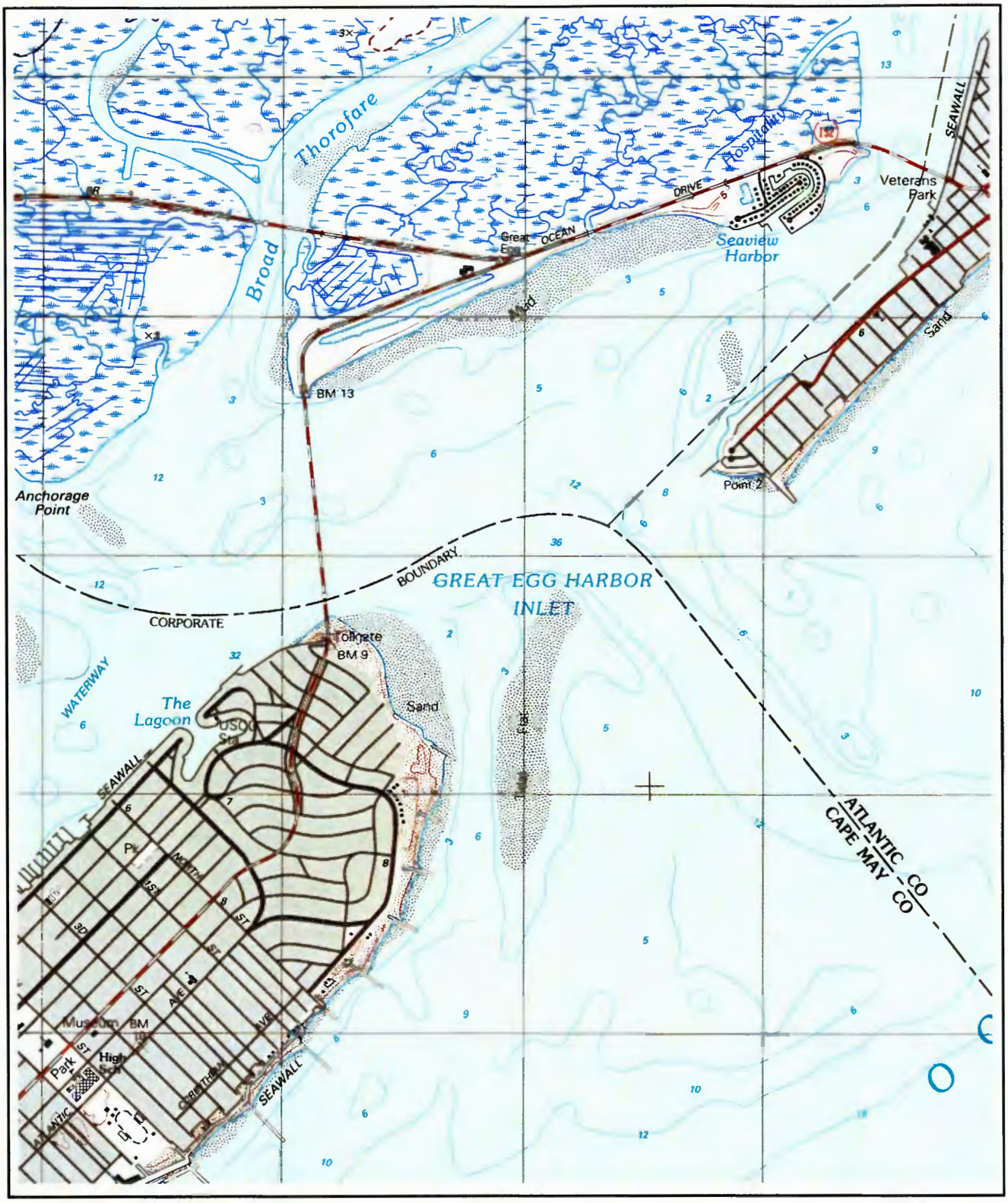
PRIORITY OF DEPLOYMENT:

First set up CP6, CP9, CP2, and CP4 simultaneously. Follow with the following sequence: CP3, CP7, CP5, CP8, CP10, CP1, and CP11, in that order.

SUGGESTIONS FOR DATA ACQUISITION:

Obtain data on currents from Corps of Engineers. Any information on seasonal wave conditions would also be helpful.

GREAT EGG HARBOR INLET



From USGS 7.5' topographic quad: Ocean City, New Jersey, published: 1989

SCALE 1 : 24,000

1 .5 0 1
MILES

1 .5 0 1
KILOMETERS

N

GREAT EGG HARBOR INLET

From USGS NAPP: roll #8650, frame #49; April 1995; scale -1:40,000

0 1 2 MILES

Great Egg Harbor Inlet at low tide on 26 August 1997, looking northeast

INLET SKETCH MAP

Inlet Name GREAT EGG HARBOR INLET, NJ

Inlet Number 9

Recorder(s) MOH/TMM/EL/RS/MS/BG/PR/PM/ JC/RDS/FM/KS/DJ/CS/BA/ES

Date/Time 28 AUGUST 1997; 0830

Tide Stage LOW @ 1109 (+0.6)

Inlet Classification A/B

CHECKLIST

- ✓ North Arrow
- ✓ Scale
- ✗ High-Tide Line
- ✗ Low-Tide Line
- ✓ Substrate Type

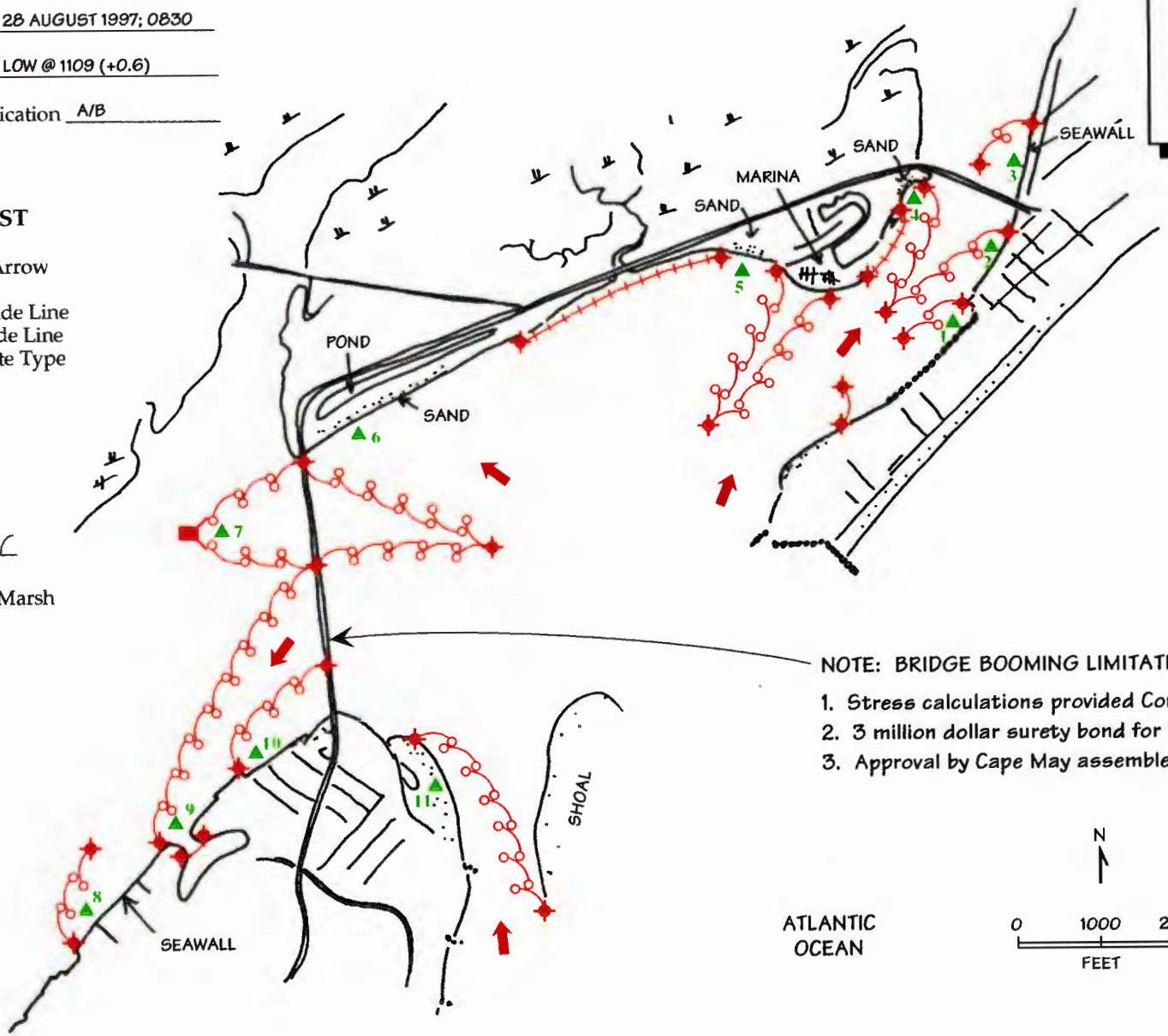
LEGEND

Salt-Water Marsh

Riprap

POTENTIAL PROTECTION STRATEGY (FLOOD TIDE)

- Deflection Boom (27,500 ft)
- Protection Boom (3,500 ft)
- Anchor Point
- ▲ 1 Collection Point
- Path of Oil
- Skimmer



NOTE: BRIDGE BOOMING LIMITATIONS AS OF 9/12/97

1. Stress calculations provided County by Bridge Engineer.
2. 3 million dollar surety bond for stress calculations.
3. Approval by Cape May assembled freeholders.

COLLECTION POINT SUMMARY SHEET

INLET: **Great Egg Harbor Inlet, Cape May and Atlantic Counties, New Jersey**

COLLECTION POINT: CP1

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

On bay shoreline, 0.7 miles from end of north spit in town of Longport

SHORELINE DESCRIPTION:

Small pocket sand beach adjacent to riprap bulkhead

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Presumed maximum currents of 2.3 knots during flood and 1.7 knots during ebb.

ACCESS:

From Ocean City, take Wesley Avenue north and cross over south bridge and head east on Route #152, across next bridge to Veterans Park. Once over bridge, go south on Atlantic Avenue six blocks to collection point (on right).

PROPOSED EQUIPMENT:

Approximately 1,000 feet of deflection boom; 10 anchor sets, minimum. One vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Potential back eddy area during flood tides. Staging a problem because of congestion.

COLLECTION POINT SUMMARY SHEET

INLET: **Great Egg Harbor Inlet, Cape May and Atlantic Counties, New Jersey**

COLLECTION POINT: CP2

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

At Veterans Park on bay shore of north spit. Approximately 250 feet from east end of Route #152 bridge

SHORELINE DESCRIPTION:

Seawall

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Measured maximum tidal currents of 2.3 knots during flood and 1.7 knots during ebb.

ACCESS:

From Ocean City, take Wesley Avenue north and cross over south bridge and head east on Route #152, across next bridge to Veterans Park.

PROPOSED EQUIPMENT:

Approximately 2,000 feet of deflection boom; 20 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Staging a problem because of congestion.

COLLECTION POINT SUMMARY SHEET

INLET: **Great Egg Harbor Inlet, Cape May and Atlantic Counties, New Jersey**

COLLECTION POINT: CP3

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

On bay shore in Longport, 1,000 feet north of the east end of the Route #152 bridge

SHORELINE DESCRIPTION:

Seawall

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Measured maximum tidal current velocities south of bridge were 2.3 knots during flood and 1.7 knots during ebb.

ACCESS:

From Ocean City, take Wesley Avenue north and cross over south bridge and head east on Route #152, across next bridge to Veterans Park. Take first left after crossing bridge and follow road north four blocks to collection point.

PROPOSED EQUIPMENT:

Approximately 1,000 feet of deflection boom; 10 anchor sets, minimum. One vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Congested staging area.

COLLECTION POINT SUMMARY SHEET

INLET: **Great Egg Harbor Inlet, Cape May and Atlantic Counties, New Jersey**

COLLECTION POINT: CP4

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Beneath Route #152 bridge on west side of northeast arm of inlet (Risley Channel)

SHORELINE DESCRIPTION:

Sand beach, bulkhead, and fringing marsh

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Measured maximum currents of 2.3 knots during flood and 1.7 knots during ebb in main channel. Flood currents are considerably weaker along the shore.

ACCESS:

From Ocean City, take Wesley Avenue north and cross over south bridge and head east on Route #152, to the next bridge. Collection point is on the right below the bridge.

PROPOSED EQUIPMENT:

Approximately 3,500 feet of deflection boom; 35 anchor sets, minimum. Approximately 1,000 feet of protection boom; 10 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Protection boom used to protect portions of the Seaview Harbor shoreline and portions of fringing marsh. Staging area in open field.

COLLECTION POINT SUMMARY SHEET

INLET: **Great Egg Harbor Inlet, Cape May and Atlantic Counties, New Jersey**

COLLECTION POINT: CP5

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

On west side of Seaview Harbor along Route #152

SHORELINE DESCRIPTION:

Sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No measurements in this area but they should be weak at collection site. Out in channel, expect maximum velocities at least 2.0 knots on both flood and ebb tides.

ACCESS:

From Ocean City, take Wesley Avenue north and cross over south bridge and head east on Route #152. Go 0.65 miles on Route #152 to collection point.

PROPOSED EQUIPMENT:

Approximately 2,000 feet of deflection boom; 20 anchor sets, minimum. Approximately 2,500 feet of protection boom; 25 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Probably good natural collection site. Good staging area. Shoals offshore may divert or trap oil on flood. Protection is for the creek entrance and fringing marsh shoreline west of the collection site.

COLLECTION POINT SUMMARY SHEET

INLET: **Great Egg Harbor Inlet, Cape May and Atlantic Counties, New Jersey**

COLLECTION POINT: CP6

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Sand shoreline at north end of Wesley Avenue bridge

SHORELINE DESCRIPTION:

Sand and some riprap

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Measured maximum velocities of 1.9 knots during flood and 2.3 during ebb in the channel near the bridge.

ACCESS:

From Ocean City, take Wesley Avenue north and cross over south bridge to collection site at north end of bridge.

PROPOSED EQUIPMENT:

Approximately 2,500 feet of deflection boom; 25 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Staging area a bit crowded. At extreme high tides, oil might be overwashed into pond behind beach. Waves a potential problem on windy or stormy days.

COLLECTION POINT SUMMARY SHEET

INLET: **Great Egg Harbor Inlet, Cape May and Atlantic Counties, New Jersey**

COLLECTION POINT: CP7

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

In the channel on the western side of the Wesley Avenue bridge

SHORELINE DESCRIPTION:

N/A

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

Maximum measured currents just east of the bridge were 1.9 knots during flood and 2.3 knots during ebb.

ACCESS:

By boat

PROPOSED EQUIPMENT:

Approximately 3,000 feet of deflection boom; 30 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Not a land-based collection site.

COLLECTION POINT SUMMARY SHEET

INLET: **Great Egg Harbor Inlet, Cape May and Atlantic Counties, New Jersey**

COLLECTION POINT: CP8

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

In Ocean City along seawall of bay shoreline southwest of the entrance to the lagoon

SHORELINE DESCRIPTION:

Seawall

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available for this area, but flood currents are not expected to exceed 1.5 knots.

ACCESS:

At the northwest end of North Street in Ocean City

PROPOSED EQUIPMENT:

Approximately 1,500 feet of deflection boom; 15 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Congested staging area.

COLLECTION POINT SUMMARY SHEET

INLET: **Great Egg Harbor Inlet, Cape May and Atlantic Counties, New Jersey**

COLLECTION POINT: CP9

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

In Ocean City at entrance to the lagoon on the bay shoreline

SHORELINE DESCRIPTION:

Seawall

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data for this location but flood currents are not expected to exceed 1.5 knots. May be a back eddy area.

ACCESS:

In Ocean City, go to northeast end of Bay Avenue. At south side of the lagoon.

PROPOSED EQUIPMENT:

Approximately 6,500 feet of deflection boom; 65 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Create collection pocket at entrance to the lagoon using deflection boom.

COLLECTION POINT SUMMARY SHEET

INLET: **Great Egg Harbor Inlet, Cape May and Atlantic Counties, New Jersey**

COLLECTION POINT: CP10

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

In Ocean City, 0.25 miles south of the southern bridge abutment along bay shoreline

SHORELINE DESCRIPTION:

Seawall

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data for this location but flood currents are not expected to exceed 1.5 knots. May be a back eddy area.

ACCESS:

In Ocean City, go to bay shoreline 1,000 feet north of the entrance to the lagoon.

PROPOSED EQUIPMENT:

Approximately 1,500 feet of deflection boom; 15 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Staging area may be congested.

COLLECTION POINT SUMMARY SHEET

INLET: **Great Egg Harbor Inlet, Cape May and Atlantic Counties, New Jersey**

COLLECTION POINT: CP11

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

In Ocean City, on beach at end of south spit, approximately 1,000 feet east of the Wesley Avenue bridge

SHORELINE DESCRIPTION:

Sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data on currents in marginal flood channel. Expect maximum flood currents with velocities of 2.0-2.5 knots. Ebb currents should be relatively weak.

ACCESS:

Before crossing Wesley Avenue bridge, exit to beach.

PROPOSED EQUIPMENT:

Approximately 3,000 feet of deflection boom; 30 anchor sets, minimum. Vacuum truck with skimmer head if possible to drive it on beach. Otherwise, skimmer/barge system.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Has to be relatively calm for this system to work.

INLET SUMMARY SHEET

SITE: **Corson Inlet, Cape May County, New Jersey**

DATE AND TIME SURVEYED (TIDE):

28 August 1997; 0800 [Low @ 1119 (+0.6); Corson Inlet (Bridges), Outer Coast, Station No. 1793]

The tidal level during the site survey was +2.5

RANKING (DEGREE OF DIFFICULTY): (see ranking scale)

C

PRINCIPAL RESOURCES AT RISK:

The marshes which harbor vast numbers of migrating and wintering waterfowl from October through April. During the remaining months, these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors. Tidal flats. Gulls and terns, including the great black-backed gull, herring gull, laughing gull, Forster's tern and least tern; raptors, including the bald eagle, peregrine falcon, and osprey; shorebirds, including the black skimmer and piping plover; wading birds, including the black-crowned night heron, cattle egret, glossy ibis, great egret, green-backed heron, little blue heron, snowy egret, tricolored heron, and yellow-crowned night heron; and waterfowl, including the American coot, American wigeon, black duck, brant, bufflehead, Canada goose, canvasback, gadwall, green-winged teal, goldeneye, mallard, merganser, mute swan, northern pintail, oldsquaw, scaup, snow goose, and whistling swan (tundra swan). Shellfish, including the blue crab. Marina and boat ramp facilities, boats, seawalls, revetments, docks, etc. along the shores of Strathmere Bay.

Nesting times of threatened and endangered species of concern:

Piping plover	1 May through 1 September
Least tern	1 May through 1 September
Roseate tern	1 May through 1 September

INLET SUMMARY SHEET

SITE: **Corson Inlet, Cape May County, New Jersey (continued)**

PRINCIPAL RESOURCES AT RISK: (continued)

Black skimmer	1 May through 1 September
Osprey	1 March through 1 August
Peregrine falcon	1 March through 1 August
Bald eagle	1 February through 1 August

PRELIMINARY PROTECTION STRATEGY:

Under ideal conditions, oil entering the inlet through the marginal flood channels could be diverted to collection points along the outer sandy beaches (CP8 and CP9). Inside the inlet, the channel bifurcates. A Christmas tree configuration of deflection boom should be deployed in the northern branch of the channel so that the western limb diverts oil to a sandy collection point along the seaward side of Ocean Drive (CP1) and the eastern limb to a collection point at the boat ramp beneath the Ocean Drive bridge (CP2). Deflection boom should also be anchored to the bridge abutments and divert oil to an open water skimmer situated in the Middle Thorofare channel (CP3). In the south branch of the main channel (Strathmere Bay), a Christmas tree configuration of deflection boom should be anchored so that the western limb diverts oil to CP1 and the eastern limb to a collection point against the bulkhead near the eastern end of the Bascule Bridge (CP6). Another Christmas tree configuration of deflection boom should be deployed in the southern branch of the channel (landward of the initial configuration and seaward of the Bascule Bridge) so that the western limb diverts oil to the boat ramp just beyond the western end of the Bascule Bridge (CP4) and the eastern limb to a sandy collection point along the Strathmere Bay shoreline landward of the eastern end of the Bascule Bridge (CP5).

INLET SUMMARY SHEET

SITE: **Corson Inlet, Cape May County, New Jersey (continued)**

GEOMORPHOLOGY:

Relatively small, unconfined natural inlet. Entrance has been known to switch dramatically. Large ebb-tidal delta that closely conforms to the model shown in Figure 3, with well-defined marginal flood channels north and south. Inlet appears to be ebb dominant.

RESOURCES REQUIRED (IF FULL STRATEGY IS IMPLEMENTED):

Approximately 16,750 feet of deflection boom. Approximately 4,750 feet of protection boom. 217 anchor sets, minimum. Five vacuum trucks with skimmer heads. One skimmer/barge system. Two areas that may require manual cleanup. For more detailed information, refer to data provided by NRC.

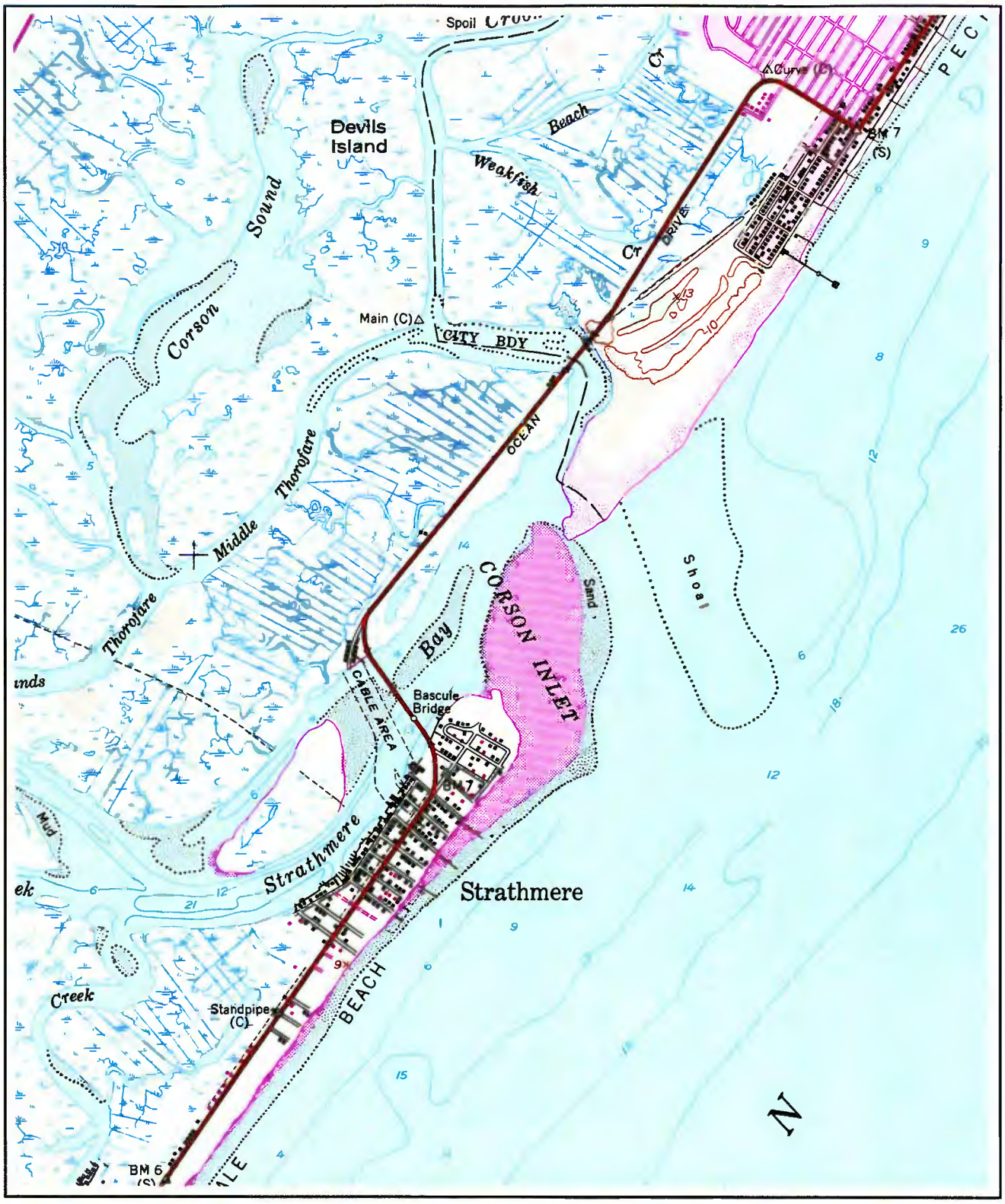
PRIORITY OF DEPLOYMENT:

Deploy in the following order: CP1, CP2, and CP6 simultaneously at first. Then CP3, CP5, CP4, CP7, and CP8 in that order.

SUGGESTIONS FOR DATA ACQUISITION:

No tidal current data are available. A program to determine maximum current velocities would be desirable. Changes in channel shape, depth, and position should be monitored.

CORSON INLET



From USGS 7.5' topographic quad: Sea Isle City, New Jersey, published: 1952, photorevised: 1972, photoinspected: 1977

SCALE 1 : 24,000

1 .5 0 1
MILES

1 .5 0 1
KILOMETERS

N

CORSON INLET

From USGS NAPP: roll #8650, frame #193; April 1995; scale -1:40,000

0 1 2 MILES

Corson Inlet at low tide on 26 August 1997, looking southwest

INLET SKETCH MAP

Inlet Name CORSON INLET, NJ

Inlet Number 10

Recorder(s) MOH/TMM/EL/RS/MS/BG/PR/PM/JC/KS/DJ/CS/BA/ES

Date/Time 28 AUGUST 1997; 0800

Tide Stage LOW @ 1119 (+0.6)

Inlet Classification C

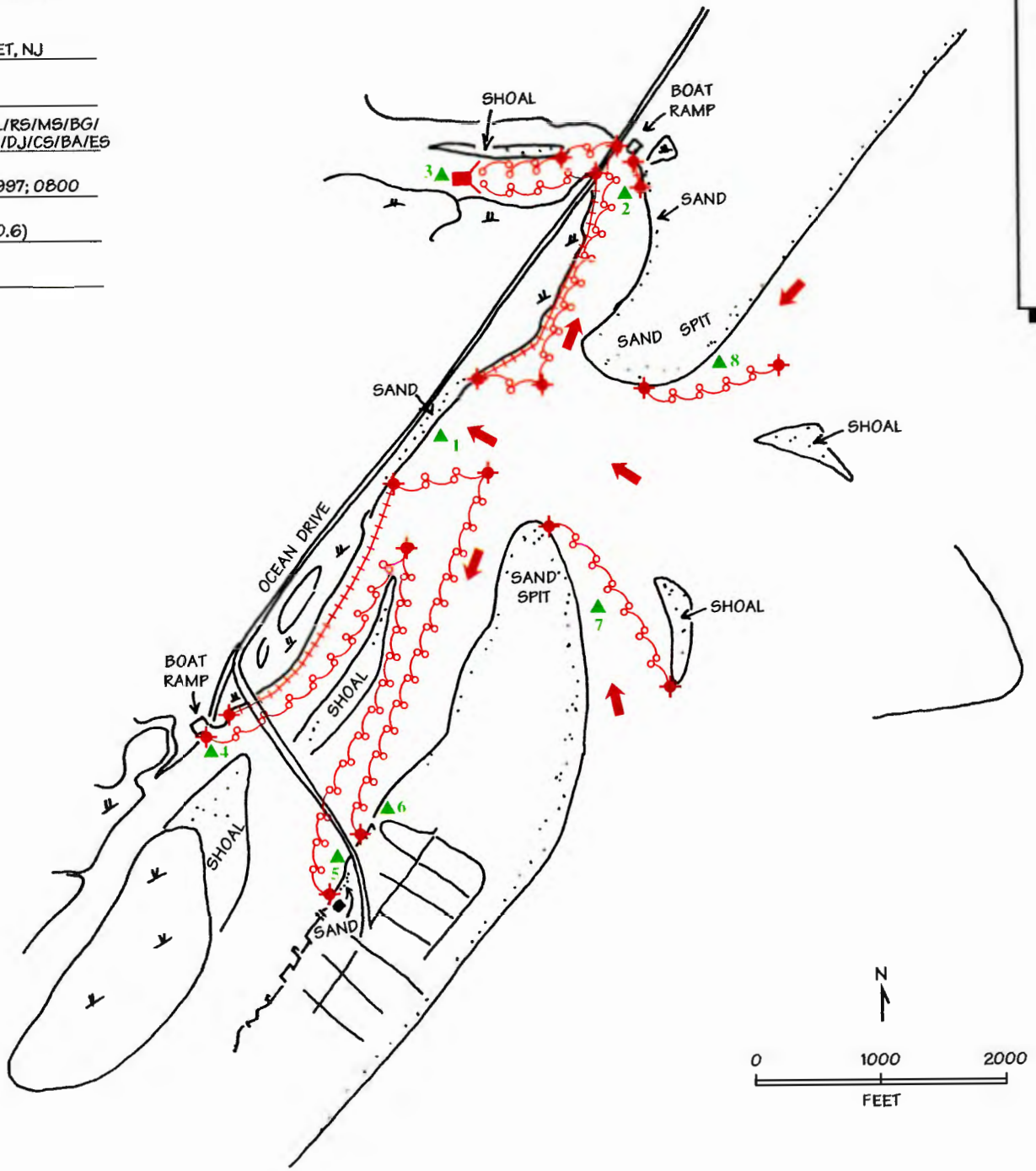
CHECKLIST

- ✓ North Arrow
- ✓ Scale
- ✗ High-Tide Line
- ✗ Low-Tide Line
- ✓ Substrate Type

LEGEND

Salt-Water Marsh

Riprap



COLLECTION POINT SUMMARY SHEET

INLET: **Corson Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP1

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Adjacent to Ocean Drive directly in line with inlet entrance

SHORELINE DESCRIPTION:

Sandy flat/beach and marginal fringing marsh

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available but expect 2 knot currents out in channel.

ACCESS:

From Garden State Parkway, take Exit 17 east and follow connector to Sea Isle City. Go north on Ocean Drive. Go through Strathmere and over Bascule Bridge. CP1 is 0.5 miles on right.

PROPOSED EQUIPMENT:

Approximately 1,250 feet of deflection boom; 13 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Waves will be a problem during windy or stormy conditions. Good natural collection site.

COLLECTION POINT SUMMARY SHEET

INLET: **Corson Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP2

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

By boat ramp on north side of Ocean Drive bridge over Middle Thorofare

SHORELINE DESCRIPTION:

Bulkhead, sand, boat ramp

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No current data but expect currents up to 2.0-2.5 knots on both flood and ebb.

ACCESS:

From Garden State Parkway, take Exit 17 east and follow connector to Sea Isle City. Go north on Ocean Drive. Go through Strathmere and over Bascule Bridge. Cross over second bridge (Middle Thorofare). Boat ramp (CP2) is on the right just across bridge.

PROPOSED EQUIPMENT:

Approximately 2,000 feet of deflection boom. Approximately 2,250 feet of protection boom. Vacuum truck with skimmer head; 43 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Good staging area at boat ramp. Protection boom is to protect fringing marsh along channel.

COLLECTION POINT SUMMARY SHEET

INLET: **Corson Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP3

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

In channel on west side of Ocean Drive bridge over Middle Thorofare

SHORELINE DESCRIPTION:

N/A

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No current data but expect currents up to 2.0-2.5 knots on both flood and ebb.

ACCESS:

By boat

PROPOSED EQUIPMENT:

Approximately 2,000 feet of deflection boom; 20 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Not a land-based collection point. Strong currents.

COLLECTION POINT SUMMARY SHEET

INLET: **Corson Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP4

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Boat ramp west of the north end of Bascule Bridge (Ocean Drive)

SHORELINE DESCRIPTION:

Bulkhead, sandy boat ramp

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No current data but expect currents up to 2.0-2.5 knots on both flood and ebb.

ACCESS:

From Garden State Parkway, take Exit 17 east and follow connector to Sea Isle City. Go north on Ocean Drive. Go through Strathmere and over Bascule Bridge. Boat ramp is on left.

PROPOSED EQUIPMENT:

Approximately 2,500 feet of deflection boom. Approximately 2,500 feet of protection boom. Vacuum truck with skimmer head; 50 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Good staging area in boat ramp parking area.

COLLECTION POINT SUMMARY SHEET

INLET: **Corson Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP5

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Sand beach near restaurant at southeast end of Bascule Bridge (Ocean Drive)

SHORELINE DESCRIPTION:

Sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No current data but expect currents up to 2.0-2.5 knots on both flood and ebb.

ACCESS:

From Garden State Parkway, take Exit 17 east and follow connector to Sea Isle City. Go north on Ocean Drive. Go through Strathmere to the Bascule Bridge. Collection point is sand beach by restaurant on left.

PROPOSED EQUIPMENT:

Approximately 3,000 feet of deflection boom; 30 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Good staging area in parking lot.

COLLECTION POINT SUMMARY SHEET

INLET: **Corson Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP6

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Developed shoreline north of the southeast end of Bascule Bridge (Ocean Drive)

SHORELINE DESCRIPTION:

Bulkhead

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No current data but expect currents up to 2.0-2.5 knots on both flood and ebb.

ACCESS:

From Garden State Parkway, take Exit 17 east and follow connector to Sea Isle City. Go north on Ocean Drive. Go through Strathmere to the Bascule Bridge. Collection point is at bulkhead on the right side of the bridge.

PROPOSED EQUIPMENT:

Approximately 3,000 feet of deflection boom; 30 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Difficult staging area because of congestion.

COLLECTION POINT SUMMARY SHEET

INLET: **Corson Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP7

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

North end of south spit

SHORELINE DESCRIPTION:

Sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data. This marginal flood channel probably has flood currents of 2-3 knots (during early flood) and weak ebb currents.

ACCESS:

From Garden State Parkway, take Exit 17 east and follow connector to Sea Isle City. Go north on Ocean Drive. Go through Strathmere, find beach access, and drive out onto beach.

PROPOSED EQUIPMENT:

Approximately 1,750 feet of deflection boom; 18 anchor sets, minimum. Manual cleanup or vacuum truck with skimmer head (if beach is trafficable).

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Difficult access for vacuum truck. Must be relatively calm water to function properly.

COLLECTION POINT SUMMARY SHEET

INLET: **Corson Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP8

DATE: 28 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

South end of north spit

SHORELINE DESCRIPTION:

Sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data. This marginal flood channel probably has flood currents of 2-3 knots (during early flood) and weak ebb currents.

ACCESS:

From Garden State Parkway, take Exit 17 east and follow connector to Sea Isle City. Go north on Ocean Drive. Continue north across Middle Thorofare bridge and follow signs to Peck Beach access. Drive south to end of spit.

PROPOSED EQUIPMENT:

Approximately 1,250 feet of deflection boom; 13 anchor sets, minimum. Manual cleanup or vacuum truck with skimmer head (if beach is trafficable).

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Difficult access for vacuum truck. Must be relatively calm water to function properly.

INLET SUMMARY SHEET

SITE: **Townsends Inlet, Cape May County, New Jersey**

DATE AND TIME SURVEYED (TIDE):

27 August 1997; 1630 [High @ 1639 (+4.2); Townsends Inlet, Outer Coast, Station No. 1803]

RANKING (DEGREE OF DIFFICULTY): (see ranking scale)

C

PRINCIPAL RESOURCES AT RISK:

The marshes which harbor vast numbers of migrating and wintering waterfowl from October through April. During the remaining months, these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors. Tidal flats. Gulls and terns, including the great black-backed gull, herring gull, laughing gull, Forster's tern and least tern; raptors, including the bald eagle, peregrine falcon, and osprey; shorebirds, including the black skimmer and piping plover; wading birds, including the black-crowned night heron, cattle egret, glossy ibis, great egret, green-backed heron, little blue heron, snowy egret, tricolored heron, and yellow-crowned night heron; and waterfowl, including the American coot, American wigeon, black duck, brant, bufflehead, Canada goose, canvasback, gadwall, green-winged teal, goldeneye, mallard, merganser, mute swan, northern pintail, oldsquaw, scaup, snow goose, and whistling swan (tundra swan). Shellfish, including the blue crab. Marina and boat ramp facilities, boats, seawalls, revetments, docks, etc. along the shores of the Intracoastal Waterway and other canals on the landward side of the barrier island.

Nesting times of threatened and endangered species of concern:

Piping plover	1 May through 1 September
Least tern	1 May through 1 September
Roseate tern	1 May through 1 September
Black skimmer	1 May through 1 September

INLET SUMMARY SHEET

SITE: **Townsends Inlet, Cape May County, New Jersey (continued)**

PRINCIPAL RESOURCES AT RISK: (continued)

Osprey	1 March through 1 August
Peregrine falcon	1 March through 1 August
Bald eagle	1 February through 1 August

PRELIMINARY PROTECTION STRATEGY:

Under ideal conditions, oil entering the inlet through the marginal flood channels could be diverted to collection points along the outer sand beaches (CP1 and CP2). This should not be done when Least terns are nesting (May-July). The main channel bifurcates inside the inlet. A Christmas tree configuration of deflection boom should be anchored to the Ocean Drive bridge abutments so that the southern limb diverts oil to a collection point against the bulkhead along the shoreline adjacent to the Avalon Yacht Club (CP2) and the northern limb to a sandy collection point along the inlet shoreline (CP5). Deflection boom leading to open water skimmers should be deployed in both the northern and southern branches of the main channel landward of the bridge (CP3 and CP4).

GEOMORPHOLOGY:

Ebb-dominant inlet with large offset to the south caused by sand deposition downdrift (sediment coming from north) side of the inlet. Main ebb channel is deflected to the south with large intertidal sand shoal separating it from a well-defined marginal flood channel to the north. Flood-tidal delta much smaller than ebb-tidal delta.

INLET SUMMARY SHEET

SITE: **Townsends Inlet, Cape May County, New Jersey (continued)**

RESOURCES REQUIRED (IF FULL STRATEGY IS IMPLEMENTED):

Approximately 12,000 feet of deflection boom. Approximately 1,500 of protection boom. 135 anchor sets, minimum. Three vacuum trucks with skimmer heads. Two skimmer/barge systems. Possible manual cleanup at two sites. For more detailed information, refer to data provided by NRC.

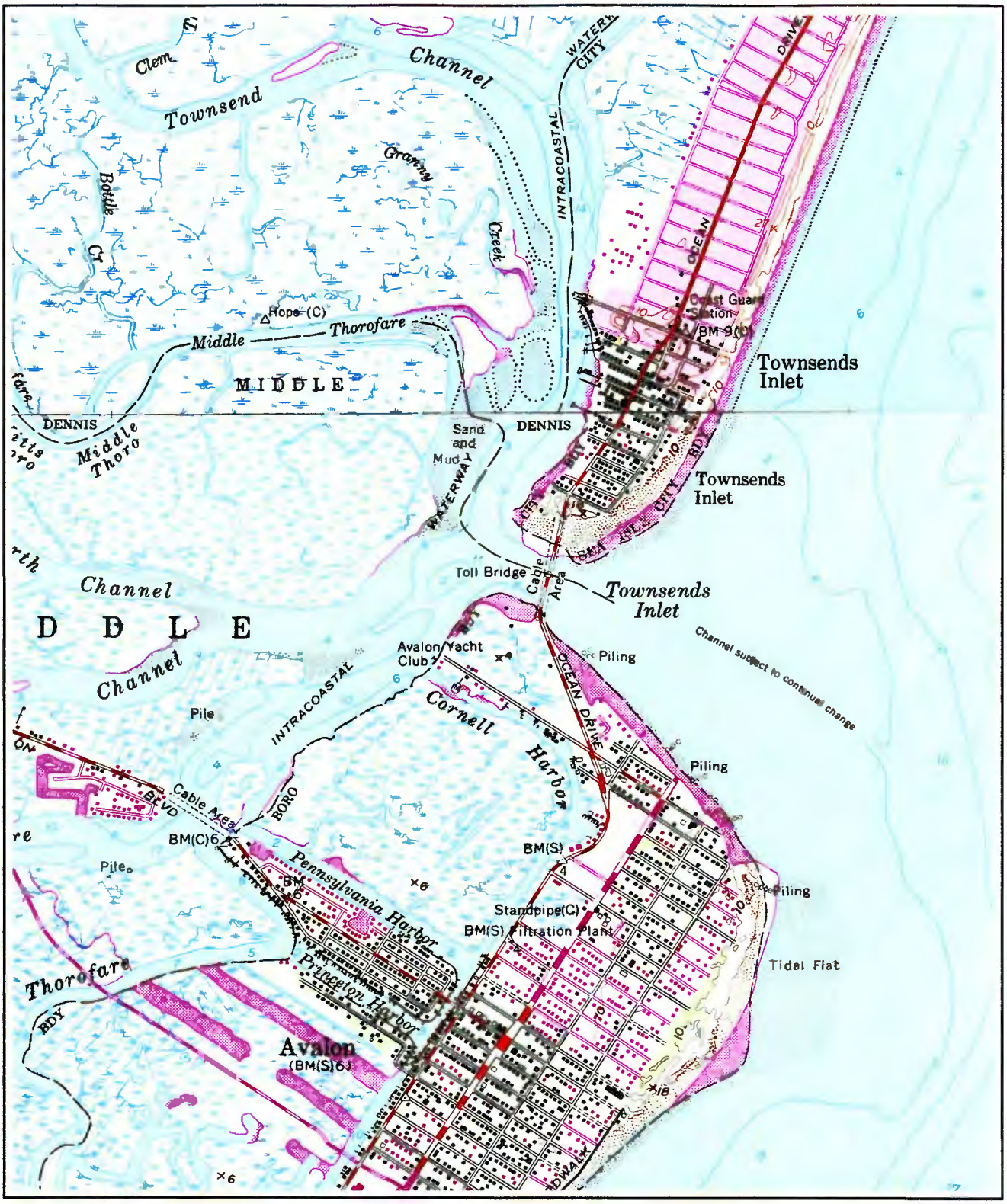
PRIORITY OF DEPLOYMENT:

First establish CP2 and CP5 (simultaneously). Follow with CP4, CP3, CP1, and CP6 in that order.

SUGGESTIONS FOR DATA ACQUISITION:

Obtain tidal current data from Corps of Engineers files.

TOWNSENDS INLET



From USGS 7.5' topographic quads: Avalon, New Jersey; published: 1953, photorevised: 1972, photoinspected: 1977 and Sea Isle City, New Jersey, published: 1952, photorevised: 1972, photoinspected: 1977

SCALE 1 : 24,000

1 .5 0 1
MILES

1 .5 0 1
KILOMETERS

N

TOWNSENDS INLET

From USGS NAPP: roll #8644, frame #46; March 1995; scale -1:40,000

0 1 2 MILES

Townsends Inlet at low tide on 26 August 1997, looking southwest

INLET SKETCH MAP

Inlet Name TOWNSENDS INLET, NJ

Inlet Number 11

Recorder(s) MOH/TMM/EL/RS/MS/BG/JS/PGH/PM/KS/JC/FM/FS/RDS/FV/DJ/BA

Date/Time 27 AUGUST 1997; 1630

Tide Stage HIGH @ 1639 (+4.2)

Inlet Classification C

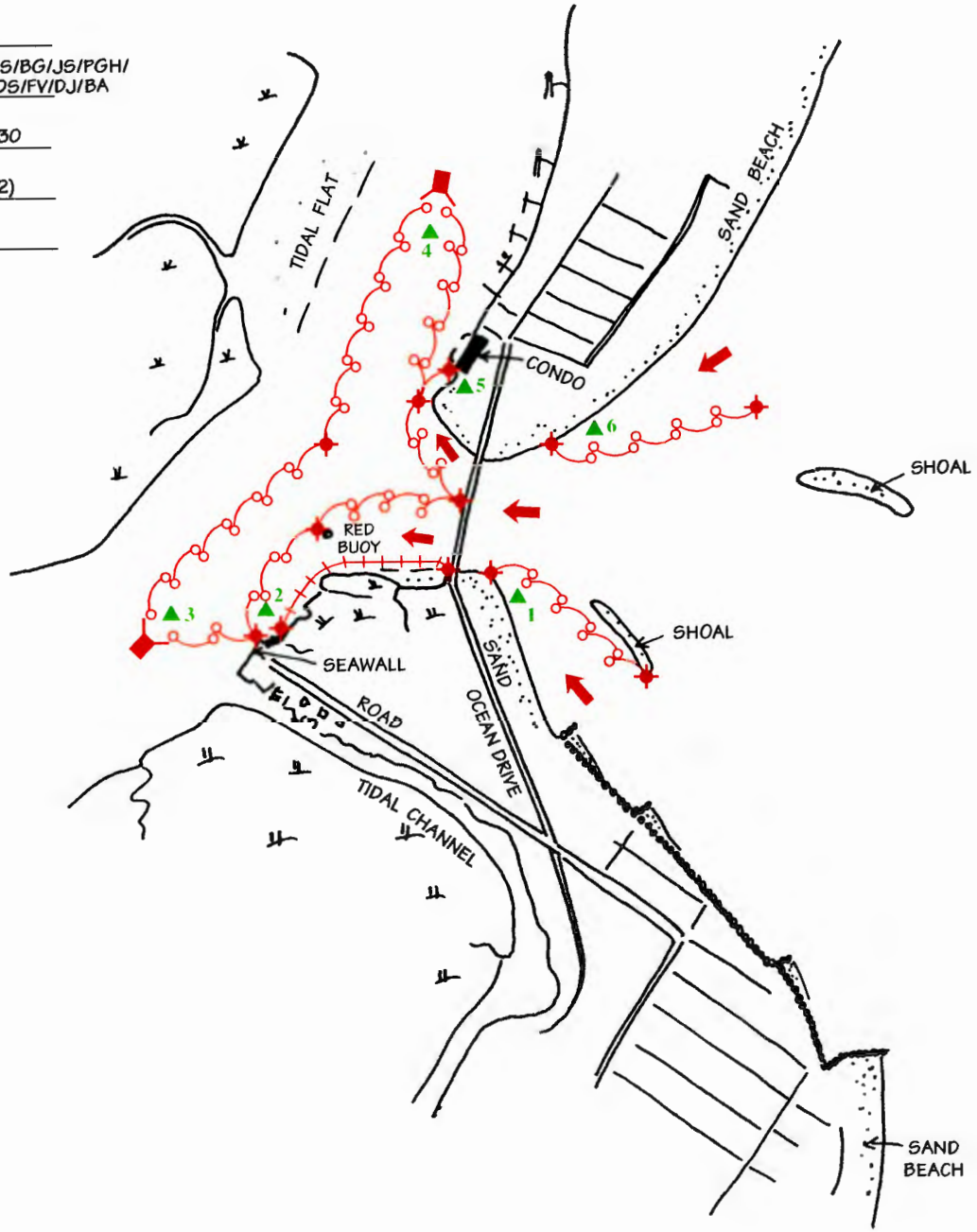
CHECKLIST

✓ North Arrow
✓ Scale
✗ High-Tide Line
✗ Low-Tide Line
✓ Substrate Type

LEGEND

Salt-Water Marsh

Riprap



POTENTIAL PROTECTION STRATEGY (FLOOD TIDE)

- Deflection Boom (12,000 ft)
- Protection Boom (1,500 ft)
- Anchor Point
- ▲1 Collection Point
- Path of Oil
- Skimmer

ATLANTIC OCEAN

N

0 1000 2000

FEET

COLLECTION POINT SUMMARY SHEET

INLET: **Townsends Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP1

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

South side of inlet channel just east of the Ocean Drive bridge

SHORELINE DESCRIPTION:

Sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available. Expect currents of at least 2 knots during flood tides. Ebb tidal current should be considerably weaker.

ACCESS:

Take Exit 13 off Garden State Parkway east to Avalon. Proceed north on Ocean Drive to south end of bridge over inlet. Collection point is on right.

PROPOSED EQUIPMENT:

Approximately 1,500 feet of deflection boom; 15 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Will not work when waves are large.

COLLECTION POINT SUMMARY SHEET

INLET: **Townsends Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP2

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

At Avalon Yacht Club

SHORELINE DESCRIPTION:

Bulkhead of riprap and seawall

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available. Expect currents up to 2 knots on the ebb tide, somewhat weaker during flood.

ACCESS:

Take Exit 13 off Garden State Parkway east to Avalon. Proceed north on Ocean Drive, through Avalon. Last left before bridge over inlet leads to Avalon Yacht Club.

PROPOSED EQUIPMENT:

Approximately 2,000 feet of deflection boom. Approximately 1,500 feet of protection boom. Vacuum truck with skimmer head; 35 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Good staging area in large parking lot. Protection boom protects marsh habitat between Yacht Club and bridge.

COLLECTION POINT SUMMARY SHEET

INLET: **Townsends Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP3

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

In major channel by Avalon Yacht Club

SHORELINE DESCRIPTION:

N/A

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available. Expect currents of at least 2 knots during both flood and ebb tide.

ACCESS:

By boat

PROPOSED EQUIPMENT:

Approximately 2,500 feet of deflection boom; 25 anchor sets, minimum. Skimmer/ barge system.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Not a land-based collection site.

COLLECTION POINT SUMMARY SHEET

INLET: **Townsends Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP4

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

In Townsend Channel north of inlet

SHORELINE DESCRIPTION:

N/A

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available. Expect currents of at least 2 knots during both flood and ebb tide.

ACCESS:

By boat

PROPOSED EQUIPMENT:

Approximately 3,000 feet of deflection boom; 30 anchor sets, minimum. Skimmer/ barge system.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Not a land-based collection site. Accurate current data not available.

COLLECTION POINT SUMMARY SHEET

INLET: **Townsends Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP5

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Beach by large condominium on west side of the north end of the Ocean Drive bridge across the inlet

SHORELINE DESCRIPTION:

Sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available. Expect currents to 2 knots during (or more) during ebb. Should be weaker with possible back eddy during flood.

ACCESS:

Take Exit 13 off Garden State Parkway east to Avalon. Proceed north on Ocean Drive through Avalon and across inlet bridge. Take first left after crossing bridge.

PROPOSED EQUIPMENT:

Approximately 1,500 feet of deflection boom; 15 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Good natural collection point. Difficult staging area.

COLLECTION POINT SUMMARY SHEET

INLET: **Townsends Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP6

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Outer beach on south end of north spit

SHORELINE DESCRIPTION:

Sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available. This is marginal flood channel. Expect flood currents up to 2.5 knots and considerably weaker ebb currents.

ACCESS:

Take Exit 13 off Garden State Parkway east to Avalon. Proceed north on Ocean Drive through Avalon and across inlet bridge. After crossing bridge, take first right to the beach. Drive south along beach to collection point.

PROPOSED EQUIPMENT:

Approximately 1,500 feet of deflection boom; 15 anchor sets, minimum. If possible to drive there, vacuum truck with skimmer head. Otherwise, manual cleanup.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Driving on sand a possible problem. Will not work when waves are large.

INLET SUMMARY SHEET

SITE: **Hereford Inlet, Cape May County, New Jersey**

DATE AND TIME SURVEYED (TIDE):

27 August 1997; 1500 [High @ 1634 (+4.5); Hereford Inlet (North Wildwood), Outer Coast, Station No. 1811]

The tidal level during the site survey was +3.9

RANKING (DEGREE OF DIFFICULTY): (see ranking scale)

A/B

PRINCIPAL RESOURCES AT RISK:

The marshes which harbor vast numbers of migrating and wintering waterfowl from October through April. During the remaining months, these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors. Tidal flats. Gulls and terns, including the great black-backed gull, herring gull, laughing gull (large rookery), least tern, and Forster's tern; raptors, including the bald eagle, peregrine falcon, and osprey; shorebirds, including the black skimmer (large rookery on island in the inlet entrance) and piping plover; wading birds, including the black-crowned night heron, yellow-crowned night heron, glossy ibis, cattle egret, little blue heron, tricolored heron, great egret, green-backed heron, and snowy egret; and waterfowl, including the American coot, American wigeon, black duck, brant, bufflehead, merganser, common goldeneye, Canada goose, snow goose, canvasback, gadwall, green-winged teal, whistling swan (tundra swan), mute swan, oldsquaw, scaup, northern pintail, northern shovelor, ruddy duck, and mallard. Shellfish, including the blue crab. Marina and boat ramp facilities, boats, seawalls, revetments, docks, etc. along the shores of the Intracoastal Waterway and Grassy Sound.

Nesting times of threatened and endangered species of concern:

Piping plover	1 May through 1 September
Least tern	1 May through 1 September

INLET SUMMARY SHEET

SITE: **Hereford Inlet, Cape May County, New Jersey (continued)**

PRINCIPAL RESOURCES AT RISK: (continued)

Roseate tern	1 May through 1 September
Black skimmer	1 May through 1 September
Osprey	1 March through 1 August
Peregrine falcon	1 March through 1 August
Bald eagle	1 February through 1 August

PRELIMINARY PROTECTION STRATEGY:

Divert oil entering the inlet through the southern marginal flood channel to a collection point against the riprap along the inlet shoreline (CP1). Anchor a Christmas tree configuration of deflection boom from the landward side of the island that is present in the inlet entrance so that the northern limb diverts oil to a collection point along the shoreline of Nummy Island beneath the Ocean Drive bridge (CP4) and the southern limb to a collection point along the Grassy Meadow Sound shoreline (CP2). Anchor deflection boom to the bridge and divert oil to a skimmer situated in the channel (CP3). Oil moving alongshore Seven Mile Beach and entering the inlet could be diverted to a collection point along the outer beach (CP9). A line of deflection boom should also be anchored to the sandy shoreline in the vicinity of Sand Marsh Cove and divert oil to the sandy northern inlet shoreline (CP8). This should not be done when terns are nesting on this beach (May-July) and a protection boom should be used along this shoreline instead. Protection boom should be deployed along the Nummy Island and Outer Island shorelines. A Christmas tree configuration of deflection boom should be anchored in Great Channel, seaward of the Stone Harbor bridge so that the western limb diverts oil to a collection point along the shoreline of Nummy Island (CP5) and the southern limb to a collection point along the shoreline of Sand Marsh (CP7). The entrance to Sand Marsh Cove should be boomed off. A line of deflection boom should be anchored to the western end of the Stone Harbor Bridge to divert oil to a collection point against the seawall of Pleasure Bay (CP6). Protection boom should be deployed from the east end of the Stone Harbor Bridge, across the mouth to Stone Harbor Hole, along the western side of Sedge Island, and across the entrance of Pleasure Bay.

INLET SUMMARY SHEET

SITE: **Hereford Inlet, Cape May County, New Jersey (continued)**

GEOMORPHOLOGY:

Wide natural inlet with small terminal groins. No jetties. Very complex network of large sand shoals choke the entrance. Wave action and complex channels would inhibit booming in the nearshore zone. Many channels to deal with requiring large footages of boom. This complexity is no doubt due to erosion during a major storm, so expect significant changes in shoal and channel positions after storms.

RESOURCES REQUIRED (IF FULL STRATEGY IS IMPLEMENTED):

Approximately 31,500 feet of deflection boom. Approximately 13,000 feet of protection boom. 440 anchor sets, minimum. Six vacuum trucks with skimmer heads. For more detailed information, refer to data provided by NRC.

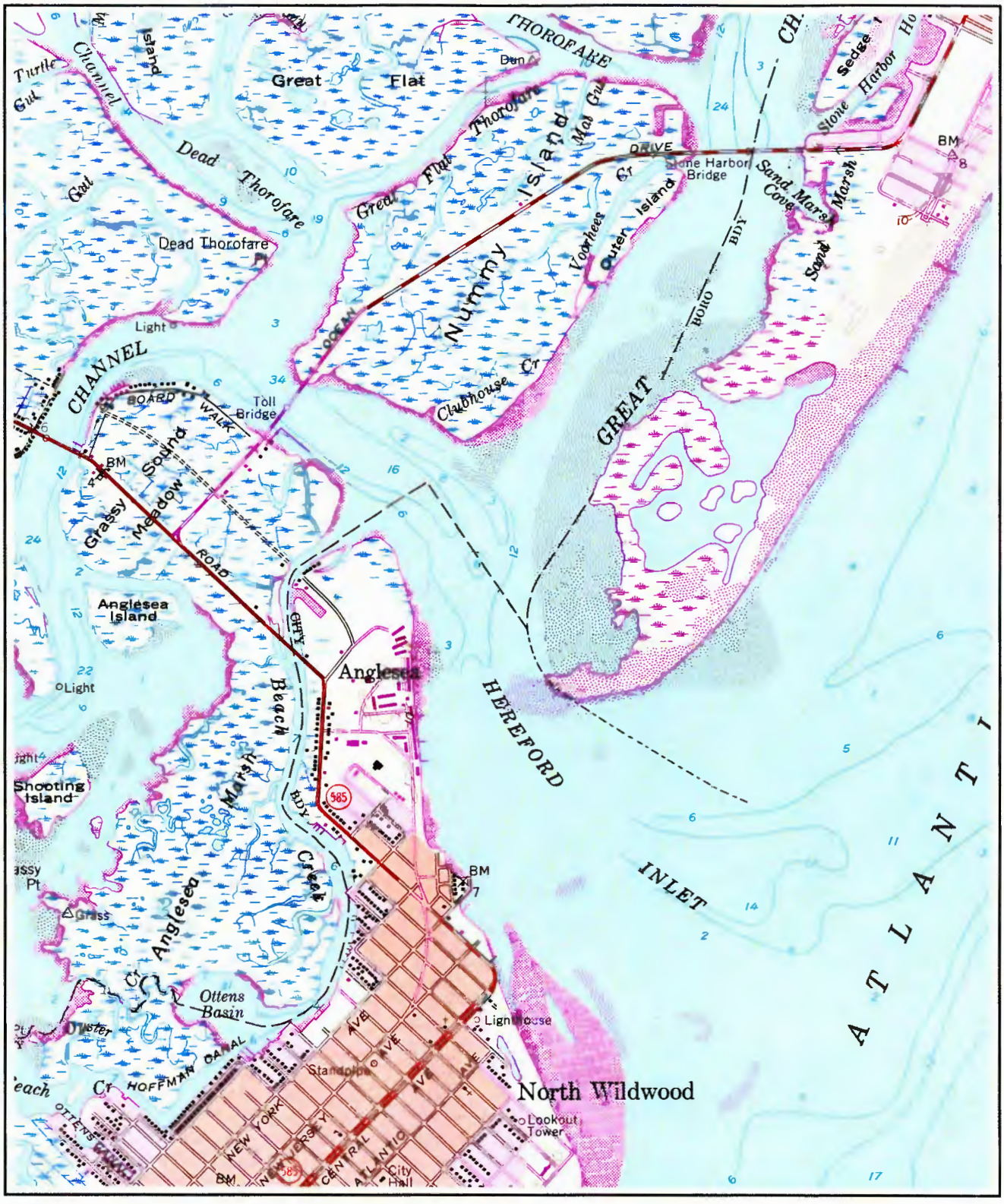
PRIORITY OF DEPLOYMENT:

First deploy CP2, CP4, CP7, and CP5 (simultaneously). Then deploy CP6, CP3, CP1, CP9, and CP8 in that order.

SUGGESTIONS FOR DATA ACQUISITION:

Need to monitor changing configuration of the shoals in the entrance. Obtain tidal current data from the files of the Corps of Engineers.

HEREFORD INLET



From USGS 7.5' topographic quad: Wildwood, New Jersey; published: 1955, photorevised: 1972, photoinspected: 1977

SCALE 1 : 24,000

1 .5 0 1
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HEREFORD INLET

From USGS NAPP: roll #8644, frame #54; March 1995; scale -1:40,000

0 1 2 MILES

Hereford Inlet at low tide on 26 August 1997, looking southwest

INLET SKETCH MAP

Inlet Name HEREFORD INLET, NJ

Inlet Number 12

Recorder(s) MOH/TMM/EL/RS/MS/BG/JS/PGH/PM/KS/JC/FM/FS/RDS/FV/DJ/BA

Date/Time 27 AUGUST 1997; 1500

Tide Stage LOW @ 1634 (+4.5)

Inlet Classification A/B

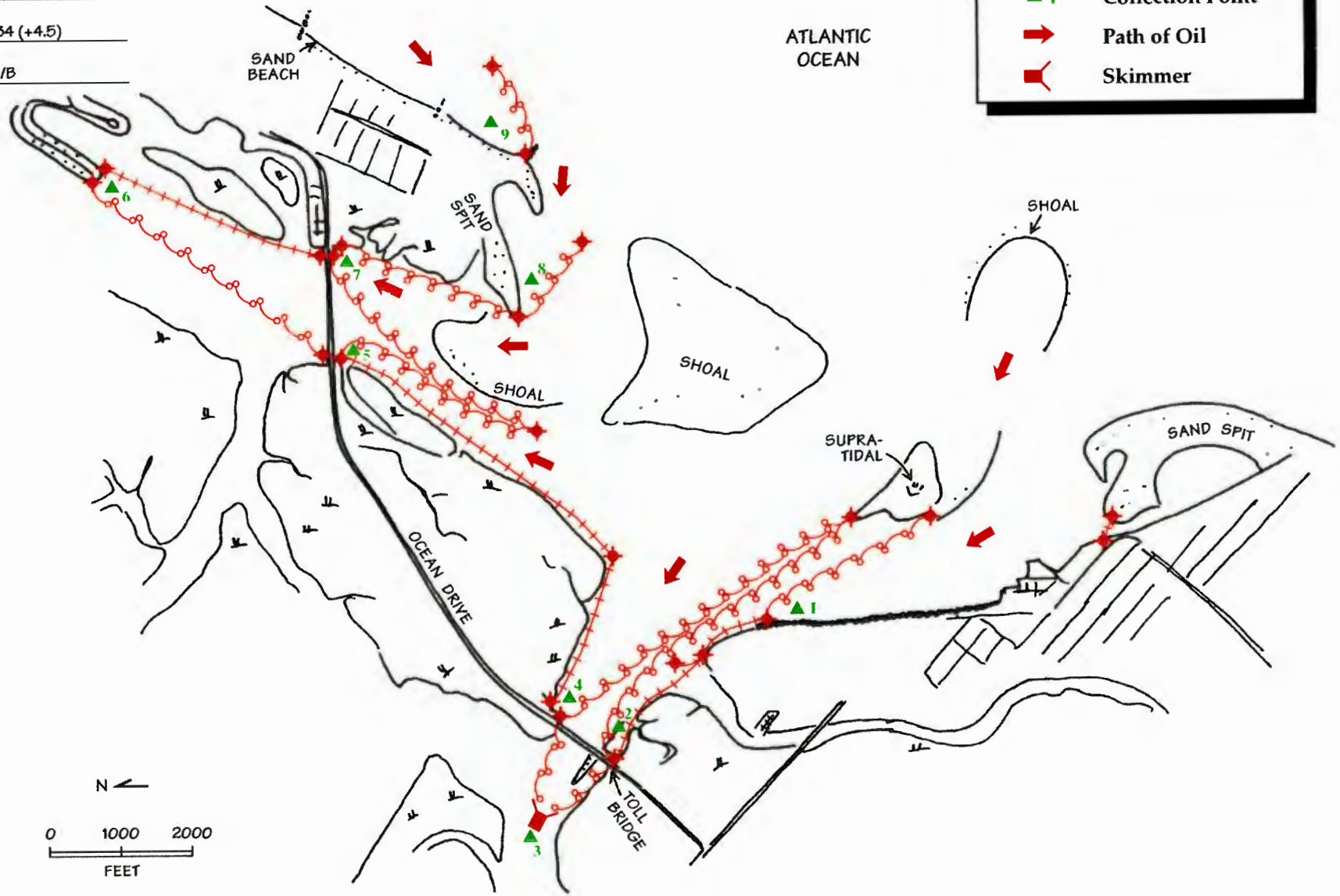
CHECKLIST

- ✓ North Arrow
- ✓ Scale
- ✗ High-Tide Line
- ✗ Low-Tide Line
- ✓ Substrate Type

LEGEND

Salt-Water Marsh

Riprap



COLLECTION POINT SUMMARY SHEET

INLET: **Hereford Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP1

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

At west end of riprap along south shore of inlet

SHORELINE DESCRIPTION:

Riprap

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available. Expect 2.0 knot current during the flood and considerably stronger currents during the ebb.

ACCESS:

Take Exit 6 off Garden State Parkway. Travel east on Route #585 (Wildwood Road) to town of Anglesea. Take first left after crossing Beach Creek and drive to riprap shoreline.

PROPOSED EQUIPMENT:

Approximately 2,500 feet of deflection boom. Approximately 500 feet of protection boom. Vacuum truck with skimmer head; 30 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Difficult access and staging area because of development. Waves a problem during storms. Protection boom to close off lagoon along North Wildwood shoreline.

COLLECTION POINT SUMMARY SHEET

INLET: **Hereford Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP2

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Southwest end of southern toll bridge on Ocean Drive

SHORELINE DESCRIPTION:

Marsh, tidal flat. High-tide boat ramp

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available. Expect currents of at least 2.5 knots during both flood and ebb tides.

ACCESS:

Take Exit 6 off Garden State Parkway. Travel east on Route #585 (Wildwood Road) to intersection with Ocean Drive. Go north on Ocean Drive to boat ramp on right side before crossing toll bridge.

PROPOSED EQUIPMENT:

Approximately 5;500 feet of deflection boom. Approximately 3,000 feet of protection boom. Vacuum truck with skimmer head; 85 anchor sets, minimum.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Protection boom extends from CP1 across mouth of Beach Creek to CP2. Marsh only collection site available at this location.

COLLECTION POINT SUMMARY SHEET

INLET: **Hereford Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP3

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

In main channel on west side of south toll bridge on Ocean Drive

SHORELINE DESCRIPTION:

N/A

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available. Expect currents of at least 2.5 knots during both flood and ebb tides.

ACCESS:

By boat

PROPOSED EQUIPMENT:

Approximately 2,500 feet of deflection boom; 25 anchor sets, minimum. Skimmer/ barge system.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Not a land-based collection site.

COLLECTION POINT SUMMARY SHEET

INLET: **Hereford Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP4

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

North side of south toll bridge on Ocean Drive

SHORELINE DESCRIPTION:

Bulkhead, riprap, and marsh

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available. Expect currents of at least 2.5 knots during both flood and ebb tides.

ACCESS:

Take Exit 6 off Garden State Parkway. Travel east on Route #585 (Wildwood Road) to intersection with Ocean Drive. Go north on Ocean Drive and cross first toll bridge. Collection point is on shoreline on right side of the north end of the bridge.

PROPOSED EQUIPMENT:

Approximately 5,000 feet of deflection boom. Approximately 2,000 feet of protection boom. Seventy anchor sets, minimum. Vacuum truck with skimmer head (if it can be operated from road). Otherwise, use skimmer/barge system.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Land access difficult. Protection boom is to protect marsh on south side of Nummy Island.

COLLECTION POINT SUMMARY SHEET

INLET: **Hereford Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP5

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

West end of Stone Harbor Bridge on Ocean Drive

SHORELINE DESCRIPTION:

Bridge abutment; sand flat; marsh

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available. Currents probably reach 2.5 knots on both flood and ebb tides.

ACCESS:

Take Exit 6 off Garden State Parkway. Travel east on Route #585 (Wildwood Road) to intersection with Ocean Drive. Go north on Ocean Drive and cross first toll bridge. Continue north to the west end of Stone Harbor Bridge. Collection point is on right.

PROPOSED EQUIPMENT:

Approximately 3,000 feet of deflection boom. Approximately 4,500 feet of protection boom. Seventy-five anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Protection boom used in front of marsh on east side of Nummy Island.

COLLECTION POINT SUMMARY SHEET

INLET: **Hereford Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP6

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

In town of Stone Harbor (Pleasure Bay)

SHORELINE DESCRIPTION:

Seawall

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available. Expect currents of 1.5-2.0 knots during both flood and ebb tides.

ACCESS:

Take Exit 10 off Garden State Parkway and go east on Stone Harbor Boulevard. Take right on Third Avenue and go eight (8) blocks south. Take right to Pleasure Bay development. Collection point is at end of second promontory.

PROPOSED EQUIPMENT:

Approximately 4,000 feet of deflection boom. Approximately 3,000 feet of protection boom. Seventy anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Staging may be problem because of private property congestion. Protection booms protect the entrance to Stone Harbor Hole and the marshes of Sedge Island.

COLLECTION POINT SUMMARY SHEET

INLET: **Hereford Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP7

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

At east end of Stone Harbor Bridge

SHORELINE DESCRIPTION:

Bulkhead and marsh

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available. Flood currents may reach 1.5 knots and ebb current should be less at collection site. Possibly stronger currents out in main channel.

ACCESS:

Take Exit 10 off Garden State Parkway and go east on Stone Harbor Boulevard. Take right on Third Avenue and proceed south to the east side of the Stone Harbor Bridge.

PROPOSED EQUIPMENT:

Approximately 6,000 feet of deflection boom; 60 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Probably a good natural collection site. Shoal will complicate flow pattern during initial flood stage.

COLLECTION POINT SUMMARY SHEET

INLET: **Hereford Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP8

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

South end of the northern sand spit

SHORELINE DESCRIPTION:

Sand beach, sand flat

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available. In region of marginal flood channel, so expect flood currents up to 2 knots. Ebb currents will be considerably weaker.

ACCESS:

Take Exit 10 off Garden State Parkway and go east on Stone Harbor Boulevard. Take right on Third Avenue and proceed south. Do not turn right over Stone Harbor Bridge but continue straight to end of road and turn left. Go to beach access and drive on beach to collection point.

PROPOSED EQUIPMENT:

Approximately 1,500 feet of deflection boom; 15 anchor sets, minimum. Vacuum truck with skimmer head if beach is trafficable. If not, either skimmer/barge system or manual collection will be required.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Difficult access point. Waves prohibit deployment during windy or storm conditions.

COLLECTION POINT SUMMARY SHEET

INLET: **Hereford Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP9

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

At terminal groin on outer beach of north spit

SHORELINE DESCRIPTION:

Sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No data available. In region of marginal flood channel, so expect flood currents up to 2 knots. Ebb currents will be considerably weaker.

ACCESS:

Take Exit 10 off Garden State Parkway and go east on Stone Harbor Boulevard. Take right on Third Avenue and proceed south. Do not turn right over Stone Harbor Bridge but continue straight to end of road and turn left. Go to beach access and drive on beach to collection point.

PROPOSED EQUIPMENT:

Approximately 1,500 feet of deflection boom; 15 anchor sets, minimum. Vacuum truck with skimmer head if beach is trafficable. If not, either skimmer/barge system or manual collection will be required.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Difficult access point. Waves prohibit deployment during windy or storm conditions.

INLET SUMMARY SHEET

SITE: **Cape May Inlet, Cape May County, New Jersey**

DATE AND TIME SURVEYED (TIDE):

27 August 1997; 1300 [High @ 1635 (+4.8); Cape May Harbor, Municipal Pier, Outer Coast, Station No. 1823]

The tidal level during the site survey was +2.5

RANKING (DEGREE OF DIFFICULTY): (see ranking scale)

B/C

PRINCIPAL RESOURCES AT RISK:

The marshes which harbor vast numbers of migrating and wintering waterfowl from October through April. During the remaining months, these areas are vital nesting habitats for gulls, terns, shorebirds, waterfowl, rails, wading birds, and various raptors. Tidal flats. Gulls and terns, including the great black-backed gull, herring gull, laughing gull, Forster's tern and least tern; raptors, including the bald eagle, peregrine falcon, northern harrier, and osprey; shorebirds, including the black skimmer and piping plover; wading birds, including the black-crowned night heron, cattle egret, glossy ibis, great egret, green-backed heron, little blue heron, snowy egret, tricolored heron, and yellow-crowned night heron; and waterfowl, including the American coot, American wigeon, black duck, brant, bufflehead, Canada goose, canvasback, common goldeneye, gadwall, green-winged teal, mallard, merganser, mute swan, northern pintail, oldsquaw, scaup, snow goose, and whistling swan (tundra swan). Shellfish, including the blue crab. Marina and boat ramp facilities, boats, seawalls, revetments, docks, etc. along the shores of Cape May Harbor and Jarvis Sound.

Nesting times of threatened and endangered species of concern:

Piping plover	1 May through 1 September
Least tern	1 May through 1 September
Roseate tern	1 May through 1 September

INLET SUMMARY SHEET

SITE: **Cape May Inlet, Cape May County, New Jersey (continued)**

PRINCIPAL RESOURCES AT RISK: (continued)

Black skimmer	1 May through 1 September
Osprey	1 March through 1 August
Peregrine falcon	1 March through 1 August
Bald eagle	1 February through 1 August

PRELIMINARY PROTECTION STRATEGY:

Anchor a Christmas tree configuration of deflection boom in the main channel so that the north limb diverts oil to a sandy collection point along the northern inlet shoreline (CP1; U.S. Coast Guard Reservation property) and the south limb to a sandy collection area along the U.S. Coast Guard Base shoreline (CP5; Sewell Point). Inside Cape May Harbor, anchor a Christmas tree configuration of deflection boom seaward of the Ocean Drive (State Route 585 Bridge) crossing the Intracoastal Waterway (Middle Thorofare Channel) so that the northern limb diverts oil to a sandy collection point along the shoreline beneath the bridge (CP2) and the southern limb to a shell beach on the west side of the channel (CP3). Another Christmas tree configuration should be anchored in the bay so that the northern limb diverts oil to CP3 and the southern limb to a collection point against the riprap along the Sewell Point shoreline (CP4).

GEOMORPHOLOGY:

Long, narrow inlet stabilized by extended jetties. Although there are no recent current readings available, NOAA's model predicts velocities up to 3 knots in the entrance.

RESOURCES REQUIRED (IF FULL STRATEGY IS IMPLEMENTED):

Approximately 12,750 feet of deflection boom; 128 anchor sets, minimum. Four vacuum trucks with skimmer heads. One skimmer/barge system. For more detailed information, refer to data provided by NRC.

INLET SUMMARY SHEET

SITE: **Cape May Inlet, Cape May County, New Jersey (continued)**

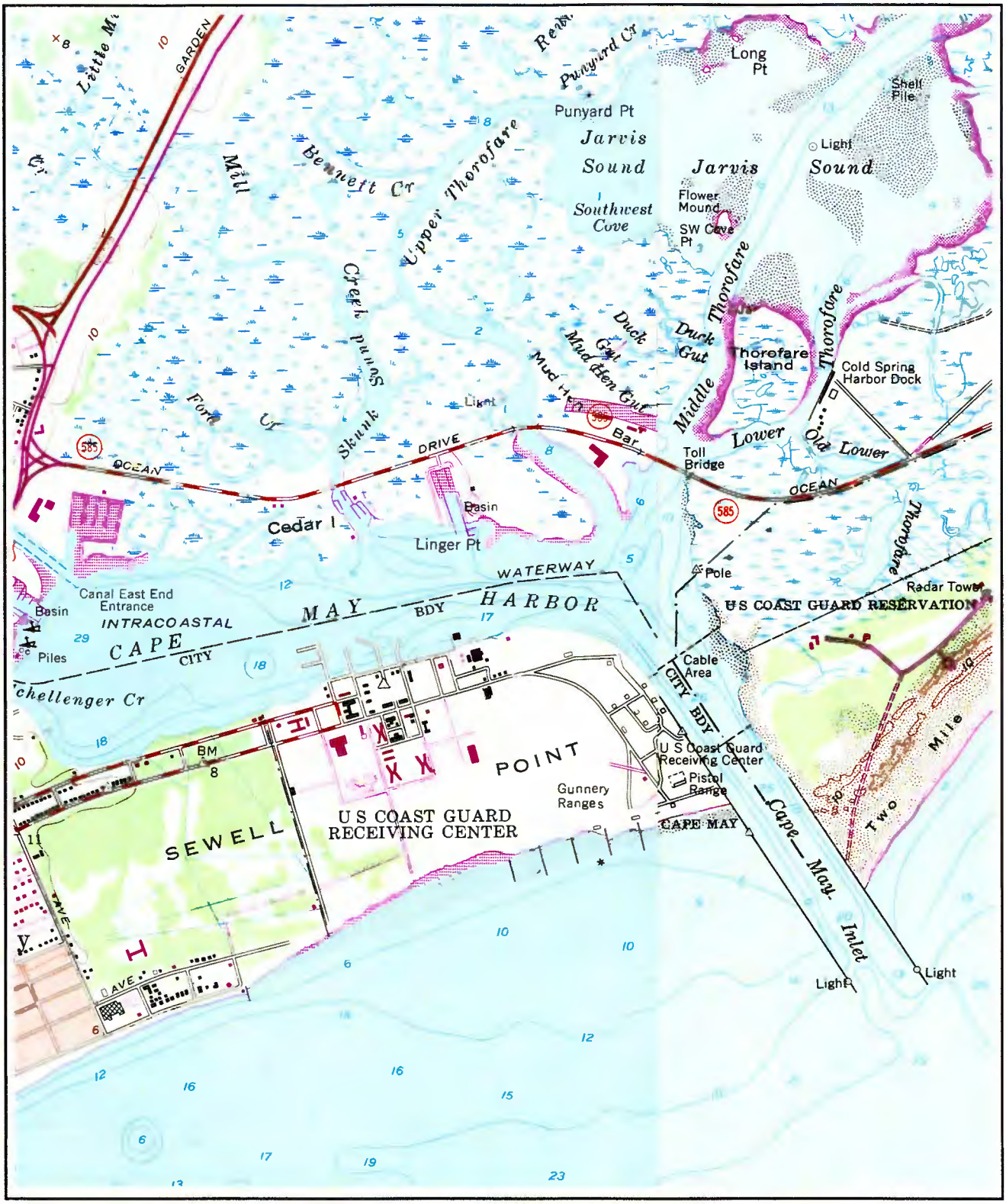
PRIORITY OF DEPLOYMENT:

Deploy CP2, CP3, and CP4 first. Then do CP5 and CP1 in that order.

SUGGESTIONS FOR DATA ACQUISITION:

Current readings to determine maximum current velocities.

CAPE MAY INLET



From USGS 7.5' topographic quads: Cape May, New Jersey, published: 1954, photorevised: 1972 and Wildwood, New Jersey; published: 1955, photorevised: 1972, photoinspected: 1977

SCALE 1 : 24,000

1 .5 0 1
MILES

1 .5 0 1
KILOMETERS

N

CAPE MAY INLET

From USGS NAPP: roll #8647, frame #30; March 1995; scale -1:40,000

0 1 2 MILES

Cape May Inlet at low tide on 26 August 1997, looking northwest

INLET SKETCH MAP

Inlet Name CAPE MAY INLET, NJ

Inlet Number 13

Recorder(s) MOH/TMM/EL/RS/MS/BG/PR/PM/JC/KS/DJ/CS/BA/ES

Date/Time 27 AUGUST 1997; 1300

Tide Stage HIGH @ 1635 (+4.7)

Inlet Classification B/C

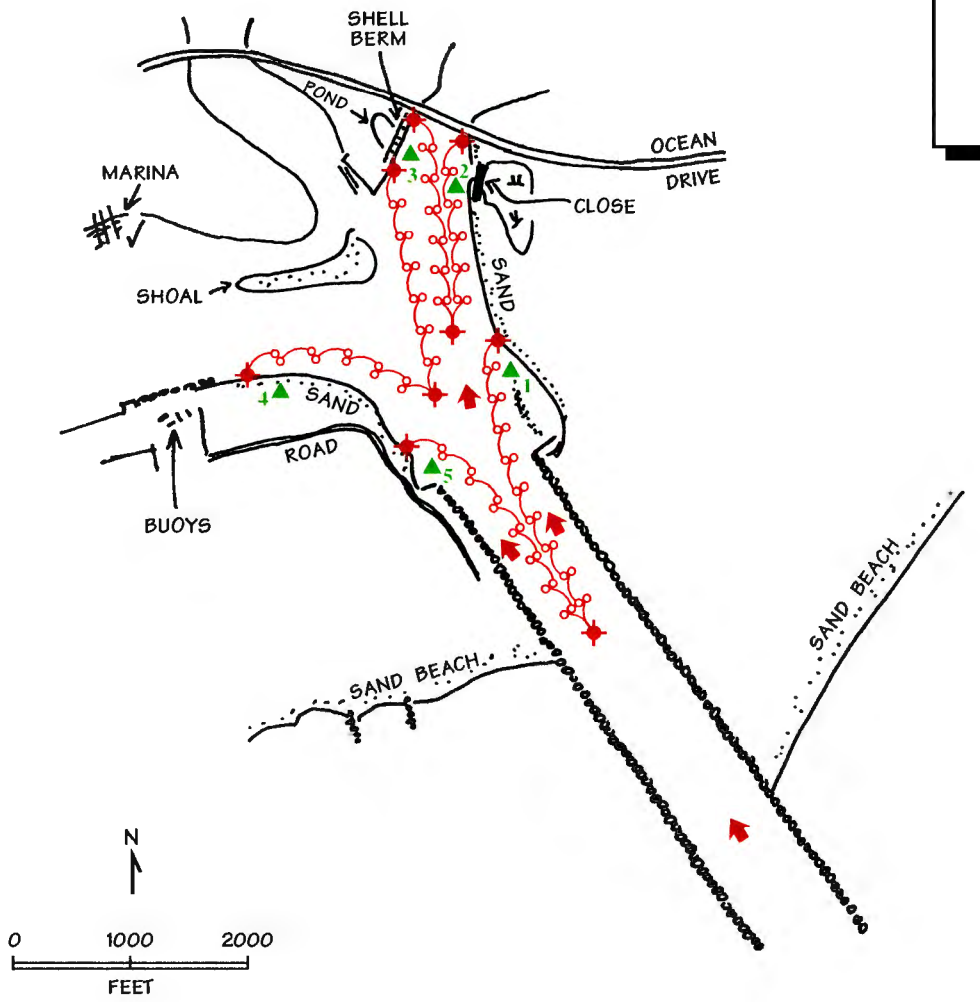
CHECKLIST

✓ North Arrow
✓ Scale
✗ High-Tide Line
✗ Low-Tide Line
✓ Substrate Type

LEGEND

Salt-Water Marsh

Riprap



POTENTIAL PROTECTION STRATEGY (FLOOD TIDE)

- Deflection Boom (11,750 ft)
- Anchor Point
- ▲ 1 Collection Point
- Path of Oil

COLLECTION POINT SUMMARY SHEET

INLET: **Cape May Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP1

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Just landward of the northwest end of the jetty riprap on the northeast side of the inlet

SHORELINE DESCRIPTION:

Sand beach and sand flat

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No measurements available, but NOAA's model predicts velocities of around 3 knots (flood and ebb) in the entrance.

ACCESS:

From Cape May, take Route #9 north to Ocean Drive (Route #585). Cross Cape May Harbor. After crossing third bridge, go 1.25 miles and turn right on dirt road, entering U.S. Coast Guard Reservation and drive to shoreline.

PROPOSED EQUIPMENT:

Approximately 3,000 feet of deflection boom; 30 anchor sets, minimum. Skimmer/ barge system.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Difficult access and strong currents.

COLLECTION POINT SUMMARY SHEET

INLET: **Cape May Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP2

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

East end of Ocean Drive bridge over Middle Thorofare

SHORELINE DESCRIPTION:

Sand beach/flat and fringing marsh

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No measurements available, but NOAA's model predicts velocities of around 3 knots (flood and ebb) in the entrance. Would be on the order of 2 knots during both ebb and flood conditions.

ACCESS:

From Cape May, take Route #9 north to Ocean Drive (Route #585). Cross Cape May Harbor. After crossing third bridge, collection point is on the right.

PROPOSED EQUIPMENT:

Approximately 1,500 feet of deflection boom; 15 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Good access to shoreline. Gravel road.

COLLECTION POINT SUMMARY SHEET

INLET: **Cape May Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP3

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

West end of Ocean Drive bridge over Middle Thorofare

SHORELINE DESCRIPTION:

Shell berm on sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No measurements available, but NOAA's model predicts velocities of around 3 knots (flood and ebb) in the entrance. Would be on the order of 2 knots during both ebb and flood conditions.

ACCESS:

From Cape May, take Route #9 north to Ocean Drive (Route #585). Cross Cape May Harbor. Once you reach the third bridge, collection point is on the right.

PROPOSED EQUIPMENT:

Approximately 4,000 feet of deflection boom; 40 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Good access but limited staging area.

COLLECTION POINT SUMMARY SHEET

INLET: **Cape May Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP4

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

U.S. Coast Guard Station, Cape May

SHORELINE DESCRIPTION:

Sand beach, some riprap

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No measurements available, but NOAA's model predicts velocities of around 3 knots (flood and ebb) in the entrance. Currents will be weaker at this collection point, with a possible back eddy during flood tides.

ACCESS:

Drive to U.S. Coast Guard Station, Cape May.

PROPOSED EQUIPMENT:

Approximately 1,750 feet of deflection boom; 18 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Good staging area.

COLLECTION POINT SUMMARY SHEET

INLET: **Cape May Inlet, Cape May County, New Jersey**

COLLECTION POINT: CP5

DATE: 27 August 1997

RECORDER(S)/AFFILIATION: Miles O. Hayes and Todd M. Montello, RPI; Rob Schrader, NJDEP

GENERAL LOCATION:

Landward end of west jetty

SHORELINE DESCRIPTION:

Sand beach

TIDAL CURRENT STRENGTH (EBB AND FLOOD):

No measurements available, but NOAA's model predicts velocities of around 3 knots (flood and ebb) in the entrance.

ACCESS:

Drive to U.S. Coast Guard Station, Cape May.

PROPOSED EQUIPMENT:

Approximately 2,500 feet of deflection boom; 25 anchor sets, minimum. Vacuum truck with skimmer head.

CONTACT INFORMATION:

Trustee Agency/Land Manager: New Jersey Department of Environmental Protection

Emergency Response Program, Manager	(609) 292-1075
24-Hours	(609) 272-7172
Division of Fish, Game, and Wildlife, Director	(609) 292-9410
Wildlife Biologist	(609) 292-9401 or (609) 785-0455

COMMENTS (OPERATIONAL/OTHER):

Strong currents.