

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General facility/site information. Please provide the following information about the site:

a) Name of facility/site : Residential Property		Facility/site mailing address:	
Location of facility/site : longitude: 70 56' 21.84 latitude: 42 35' 26.46	Facility SIC code(s):	Street: 274 Locust Street	
b) Name of facility/site owner :		Town: Danvers	
Email address of facility/site owner: NA	State: MA	Zip: 01923	County: Essex
Telephone no. of facility/site owner : 781-241-8251	Owner is (check one): 1. Federal <input type="radio"/> 2. State/Tribal <input type="radio"/> 3. Private <input checked="" type="radio"/> 4. Other <input type="radio"/> if so, describe:		
Fax no. of facility/site owner : N/A			
Address of owner (if different from site):			
Street: 274 Locust Street			
Town: Danvers	State: MA	Zip: 01923	County: Essex
c) Legal name of operator :	Operator telephone no: 978-465-1595		
ENPRO Services, Inc.	Operator fax no.: 978-465-2050	Operator email: gbrown@enpro.com	
Operator contact name and title: Geoffrey Brown, Vice President / Operator			
Address of operator (if different from owner):	Street: 12 Mulliken Way		
Town: Newburyport	State: MA	Zip: 01950	County: Essex

d) Check Y for “yes” or N for “no” for the following:

1. Has a prior NPDES permit exclusion been granted for the discharge? Y ☐ N ☒, if Y, number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge?
Y ☐ N ☒, if Y, date and tracking #:
3. Is the discharge a “new discharge” as defined by 40 CFR 122.2? Y ☒ N ☐
4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y ☒ N ☐

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y ☒ N ☐

If Y, please list:

1. site identification # assigned by the state of NH or

MA:

2. permit or license # assigned:

3. state agency contact information: name, location, and telephone number:

Mr. Andrew Clark, MassDEP (978) 694-3213

f) Is the site/facility covered by any other EPA permit, including:

1. Multi-Sector General Permit? Y ☐ N ☒,
if Y, number:
2. Final Dewatering General Permit? Y ☐ N ☒,
if Y, number:
3. EPA Construction General Permit? Y ☐ N ☒,
if Y, number:
4. Individual NPDES permit? Y ☐ N ☒,
if Y, number:
5. any other water quality related individual or general permit? Y ☐ N ☒, if Y, number:

g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y ☐ N ☒

h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.

<u>Activity Category</u>	<u>Activity Sub-Category</u>
I - Petroleum Related Site Remediation	A. Gasoline Only Sites <input type="checkbox"/> B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) <input checked="" type="checkbox"/> C. Petroleum Sites with Additional Contamination <input type="checkbox"/>
II - Non Petroleum Site Remediation	A. Volatile Organic Compound (VOC) Only Sites <input type="checkbox"/> B. VOC Sites with Additional Contamination <input type="checkbox"/> C. Primarily Heavy Metal Sites <input type="checkbox"/>
III - Contaminated Construction Dewatering	A. General Urban Fill Sites <input type="checkbox"/> B. Known Contaminated Sites <input type="checkbox"/>

IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites <input type="checkbox"/> B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites <input type="checkbox"/> C. Hydrostatic Testing of Pipelines and Tanks <input type="checkbox"/> D. Long-Term Remediation of Contaminated Sumps and Dikes <input type="checkbox"/> E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) <input type="checkbox"/>
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2. Discharge information. Please provide information about the discharge, (attaching additional sheets as necessary) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:

The subsurface was impacted by a release of #2 fuel oil from an above-ground storage tank located in the basement of the residence. The discharge involves the treatment and discharge of petroleum impacted groundwater at the Site.

b) Provide the following information about each discharge:

1) Number of discharge points:	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)?
1	Max. flow <input type="text" value="0.02"/> Is maximum flow a design value ? Y <input type="radio"/> N <input checked="" type="radio"/>
	Average flow (include units) <input type="text" value="0.016"/> Is average flow a design value or estimate? <input type="text" value="Estimate"/>

3) Latitude and longitude of each discharge within 100 feet:

pt.1: lat. <input type="text" value="43 35'27.81"/>	long. <input type="text" value="70 56'20.24"/>	pt.2: lat. <input type="text"/>	long. <input type="text"/>	:
pt.3: lat. <input type="text"/>	long. <input type="text"/>	pt.4: lat. <input type="text"/>	long. <input type="text"/>	:
pt.5: lat. <input type="text"/>	long. <input type="text"/>	pt.6: lat. <input type="text"/>	long. <input type="text"/>	:
pt.7: lat. <input type="text"/>	long. <input type="text"/>	pt.8: lat. <input type="text"/>	long. <input type="text"/>	: etc.

4) If hydrostatic testing, total volume of the discharge (gals):

5) Is the discharge intermittent ☒ or seasonal ☐ ?

Is discharge ongoing? Y ☐ N ☒

(system is temporary shut down, pending result of groundwater sampling)

c) Expected dates of discharge (mm/dd/yy): start end

d) Please attach a line drawing or flow schematic showing water flow through the facility including:

1. sources of intake water. 2. contributing flow from the operation. 3. treatment units. and 4. discharge points and receiving waters(s).

3. Contaminant information.

a) Based on the sub-category selected (see Appendix III), indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
1. Total Suspended Solids (TSS)		<input checked="" type="checkbox"/>	<input type="checkbox"/>								
2. Total Residual Chlorine (TRC)		<input checked="" type="checkbox"/>	<input type="checkbox"/>								
3. Total Petroleum Hydrocarbons (TPH)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	3	GRAB	8015B		NA	NA	NA	NA
4. Cyanide (CN)	57125	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
5. Benzene (B)	71432	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
6. Toluene (T)	108883	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3	GRAB	MAVPH		28	0.0234	12	0.01
7. Ethylbenzene (E)	100414	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3							
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3	GRAB	MAVPH		14	0.0117	5.5	0.0046
9. Total BTEX ²	n/a	<input type="checkbox"/>	<input checked="" type="checkbox"/>								
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) ³	106934	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
11. Methyl-tert-Butyl Ether (MtBE)	1634044	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3	GRAB	8260		28	0.0234	7.19	0.006
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	<input checked="" type="checkbox"/>	<input type="checkbox"/>								

* Numbering system is provided to allow cross-referencing to Effluent Limits and Monitoring Requirements by Sub-Category included in Appendix III, as well as the Test Methods and Minimum Levels associated with each parameter provided in Appendix VI.

² BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

³ EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
13. tert-Amyl Methyl Ether (TAME)	9940508	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
14. Naphthalene	91203	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3	GRAB	MAVPH		391	0.0118	12.83	0.0107
15. Carbon Tetrachloride	56235	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
16. 1,2 Dichlorobenzene (o-DCB)	95501	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
17. 1,3 Dichlorobenzene (m-DCB)	541731	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
18. 1,4 Dichlorobenzene (p-DCB)	106467	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
18a. Total dichlorobenzene		<input checked="" type="checkbox"/>	<input type="checkbox"/>								
19. 1,1 Dichloroethane (DCA)	75343	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
20. 1,2 Dichloroethane (DCA)	107062	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
21. 1,1 Dichloroethene (DCE)	75354	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
22. cis-1,2 Dichloroethene (DCE)	156592	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
23. Methylene Chloride	75092	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
24. Tetrachloroethene (PCE)	127184	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
25. 1,1,1 Trichloro-ethane (TCA)	71556	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
26. 1,1,2 Trichloro-ethane (TCA)	79005	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
27. Trichloroethene (TCE)	79016	<input checked="" type="checkbox"/>	<input type="checkbox"/>								

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
28. Vinyl Chloride (Chloroethene)	75014	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
29. Acetone	67641	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
30. 1,4 Dioxane	123911	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
31. Total Phenols	108952	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
32. Pentachlorophenol (PCP)	87865	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
33. Total Phthalates (Phthalate esters) ⁴		<input checked="" type="checkbox"/>	<input type="checkbox"/>								
34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	117817	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		<input checked="" type="checkbox"/>	<input type="checkbox"/>								
a. Benzo(a) Anthracene	56553	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
b. Benzo(a) Pyrene	50328	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
c. Benzo(b)Fluoranthene	205992	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
d. Benzo(k)Fluoranthene	207089	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
e. Chrysene	21801	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
f. Dibenzo(a,h)anthracene	53703	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
g. Indeno(1,2,3-cd) Pyrene	193395	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		<input checked="" type="checkbox"/>	<input type="checkbox"/>								

⁴ The sum of individual phthalate compounds.

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								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
h. Acenaphthene	83329	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3	GRAB	8270C		7	0.0027	3.83	0.0015
i. Acenaphthylene	208968	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
j. Anthracene	120127	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
k. Benzo(ghi) Perylene	191242	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
l. Fluoranthene	206440	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
m. Fluorene	86737	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
n. Naphthalene	91203	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3	GRAB	MAVPH		391	0.0118	12.83	0.0107
o. Phenanthrene	85018	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3	GRAB	8270C		6	0.005	3.25	0.0028
p. Pyrene	129000	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
38. Chloride	16887006	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
39. Antimony	7440360	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
40. Arsenic	7440382	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
41. Cadmium	7440439	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
42. Chromium III (trivalent)	16065831	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
43. Chromium VI (hexavalent)	18540299	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
44. Copper	7440508	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
45. Lead	7439921	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
46. Mercury	7439976	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
47. Nickel	7440020	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
48. Selenium	7782492	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
49. Silver	7440224	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
50. Zinc	7440666	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
51. Iron	7439896	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
Other (describe):		<input checked="" type="checkbox"/>	<input type="checkbox"/>								

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
		<input type="checkbox"/>	<input type="checkbox"/>								
		<input type="checkbox"/>	<input type="checkbox"/>								

b) For discharges where **metals** are believed present, please fill out the following (attach results of any calculations):

<p><i>Step 1:</i> Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y <input type="radio"/> N <input checked="" type="radio"/></p>	<p>If yes, which metals?</p>
<p><i>Step 2:</i> For any metals which exceed the Appendix III limits, calculate the dilution factor (DF) using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals?</p> <p>Metal: <input type="text"/> DF: <input type="text"/></p> <p>Metal: <input type="text"/> DF: <input type="text"/></p> <p>Metal: <input type="text"/> DF: <input type="text"/></p> <p>Metal: <input type="text"/> DF: <input type="text"/></p> <p>Etc.</p>	<p>Look up the limit calculated at the corresponding dilution factor in Appendix IV. Do any of the metals in the influent have the potential to exceed the corresponding effluent limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)?</p> <p>Y <input type="radio"/> N <input type="radio"/> If Y, list which metals:</p>

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

<p>a) A description of the treatment system, including a schematic of the proposed or existing treatment system:</p> <p>Groundwater is pumped from two recovery wells (MW-2 & MW-3) to a holding tank. Water is then treated through 2 granular activated carbon units prior to discharge.</p>						
<p>b) Identify each applicable treatment unit (check all that apply):</p>	<p>Frac. tank <input type="checkbox"/></p>	<p>Air stripper <input type="checkbox"/></p>	<p>Oil/water separator <input type="checkbox"/></p>	<p>Equalization tanks <input checked="" type="checkbox"/></p>	<p>Bag filter <input checked="" type="checkbox"/></p>	<p>GAC filter <input checked="" type="checkbox"/></p>
	<p>Chlorination <input type="checkbox"/></p>	<p>De-chlorination <input type="checkbox"/></p>	<p>Other (please describe):</p>			

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate(s)** (gallons per minute) of the treatment system:

Average flow rate of discharge gpm Maximum flow rate of treatment system gpm

Design flow rate of treatment system gpm

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

NA

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:

Direct to
receiving
water ☐

Within facility
(sewer) ☐

Storm
drain ☒

Wetlands ☐

Other (describe):

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:

Treated Water is discharged into a stormwater catch basin located on the corner of Sharons Way and Locust Street. The storm drain discharges to Frost Fish Brook.

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:

1. For multiple discharges, number the discharges sequentially.

2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water

The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water cfs

Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y ☒ N ☐ If yes, for which pollutant(s)?

Is there a final TMDL? Y ☒ N ☐ If yes, for which pollutant(s)?

6. ESA and NHPA Eligibility.

Please provide the following information according to requirements of Permit Parts I.A.4 and I.A.5 Appendices II and VII.

a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit?

A ☒ B ☐ C ☐ D ☐ E ☐ F ☐

b) If you selected Criterion D or F, has consultation with the federal services been completed? Y ☐ N ☐ Underway ☐

c) If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is “not likely to adversely affect” listed species or critical habitat received? Y ☐ N ☐

d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.

e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit?

1 ☒ 2 ☐ 3 ☐

f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.

7. Supplemental information.

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.

Per Section 1 - Areas of Critical Concern Map

Per Section 2 & 5 - Location of Site and Discharge Point , MassGIS Priority Resources Map, GW Treatment System Schematic, Receiving Waters Classification Map, 7Q10 data listing , and TMDL listing for Frost Fish Brook.

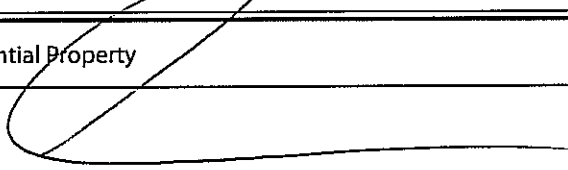
Per Section 3 - Data Summary Table for Groundwater Monitoring Results and Analytical Report #65091, #66619, #68438

Per Section 4 - Copy of treatment system flow schematic

Per Section 6 - ESA and HHPA documentation: Piping Plover, Whorled Pogonia, Hawsbill Sea Turtle, Leatherback Sea Turtle, Green Sea Turtle, Loggerhead Sea Turtle

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name:	Residential Property
Operator signature:	
Printed Name & Title:	Geoffrey Brown, Vice President/ Operator
Date:	12-9-10

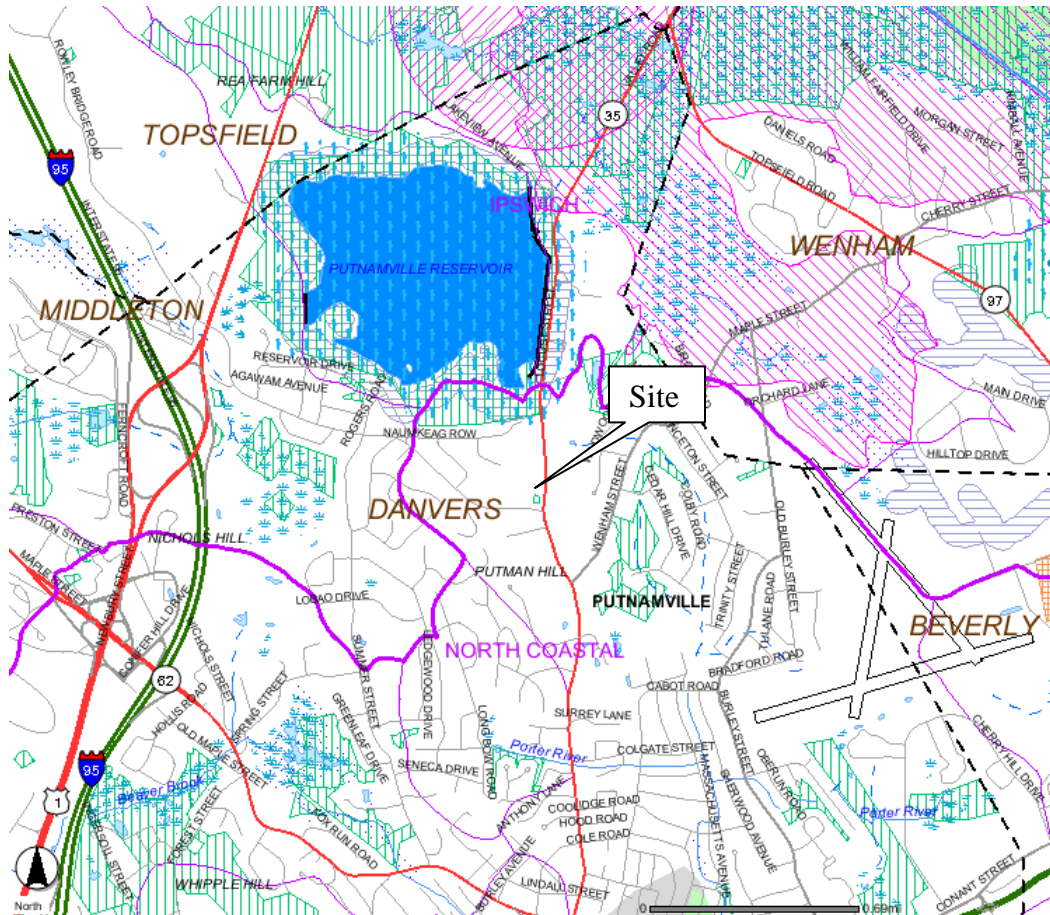


**Location of Site and
Discharge Point**

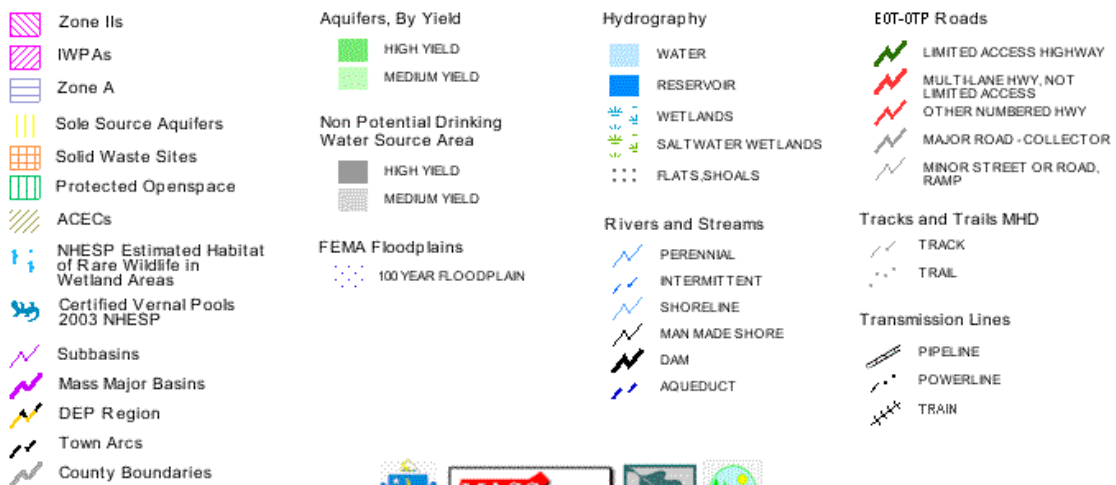
MADEP RTN 3-27042
274 Locust Street
Danvers, MA

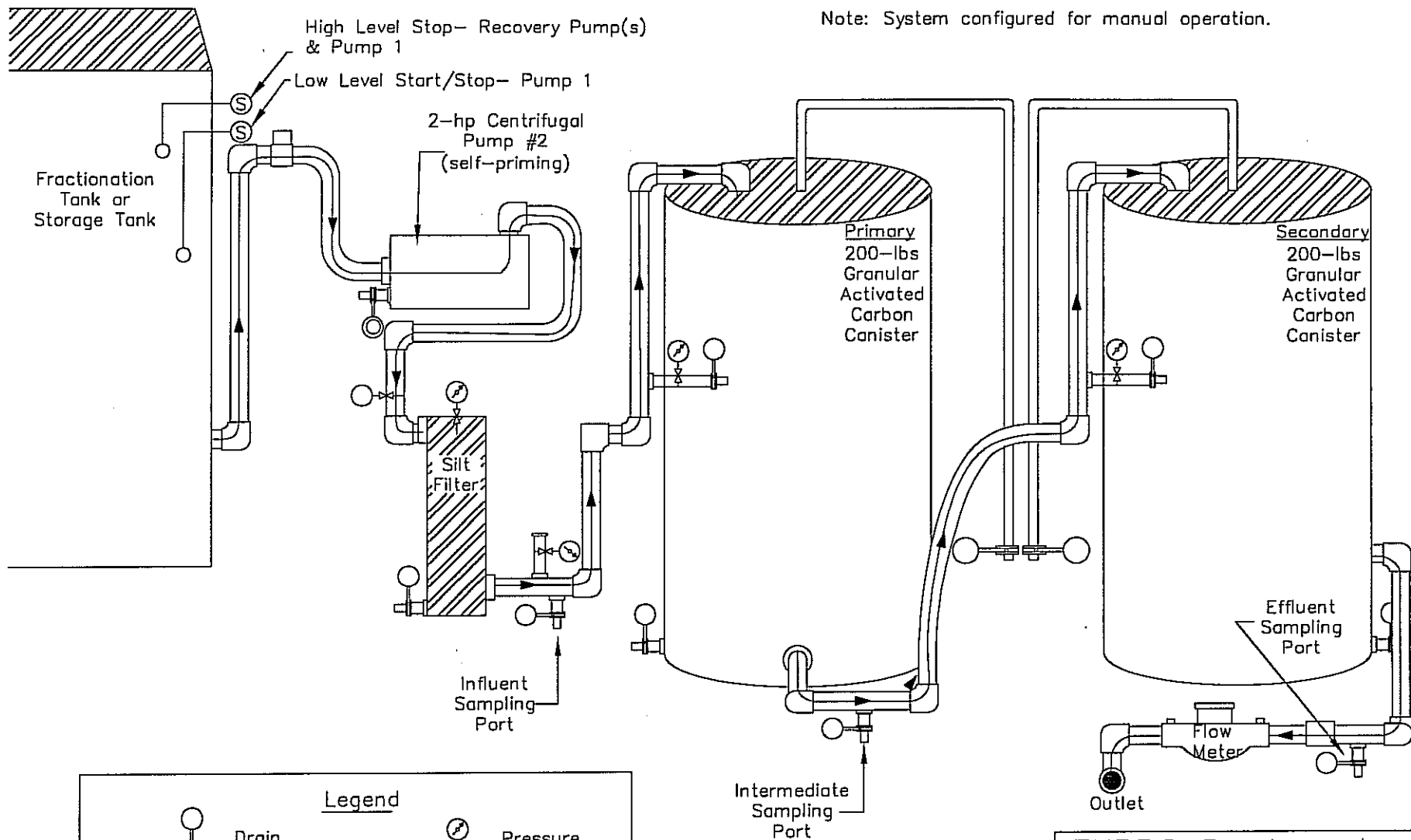


FIGURE 3 - MASSDEP PRIORITY RESOURCES MAP

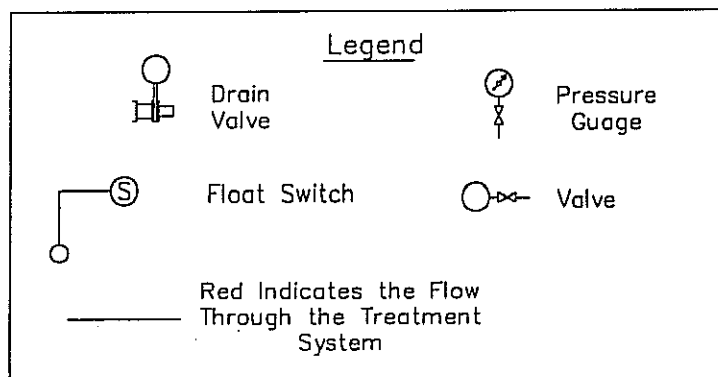


DEP MCP 21e Map Legend





Note: System configured for manual operation.



NOTE:
All groundwater treatment components are enclosed in heated, locked, mobile trailer with exception of recovery pump(s) and/or fractionation tanks.

ENPRO Services, Inc.

Residential Property
274 Locust Street
Danvers, MA

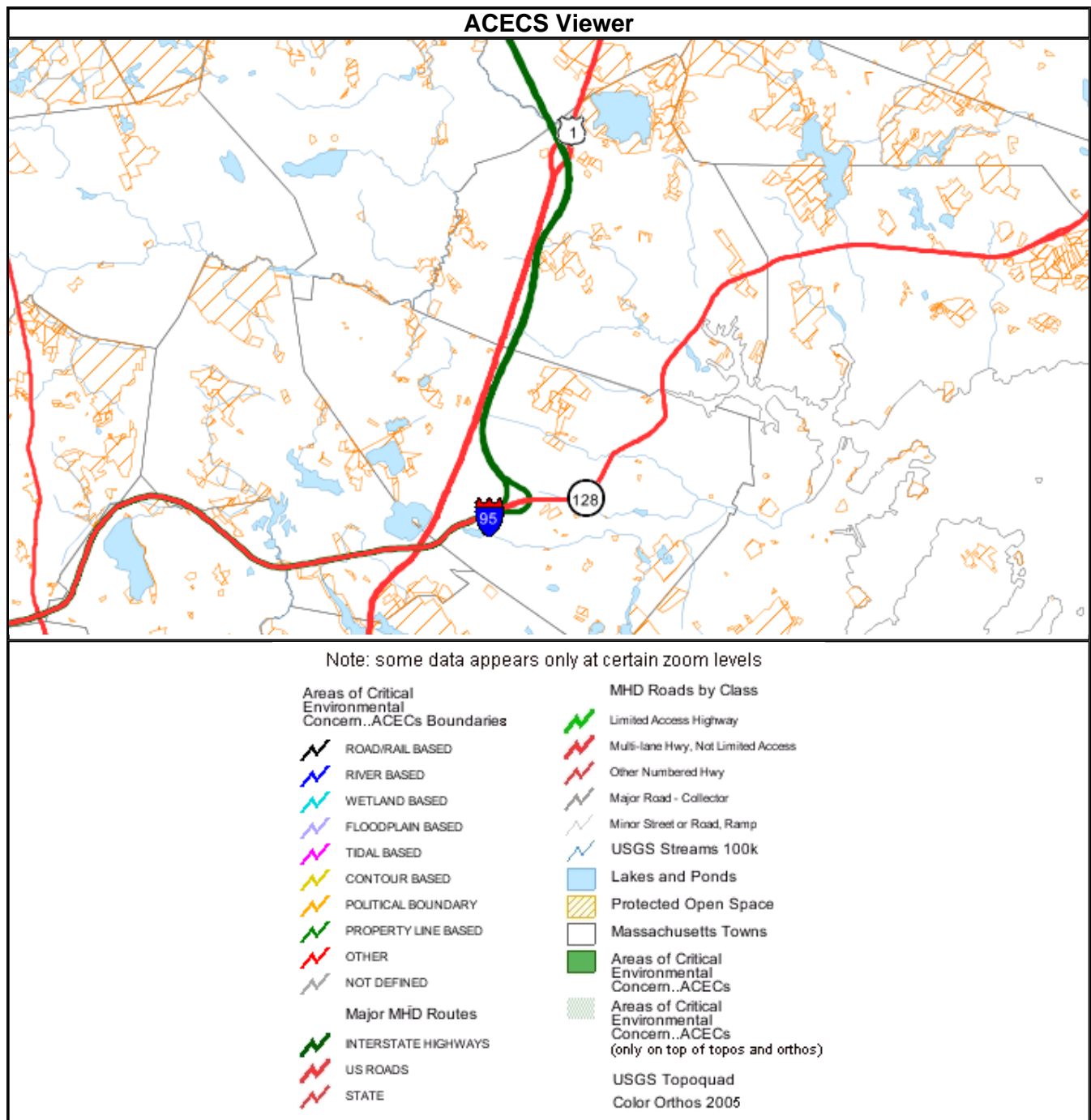
Proposed 10 GPM Groundwater Treatment System Schematic

Not To Scale

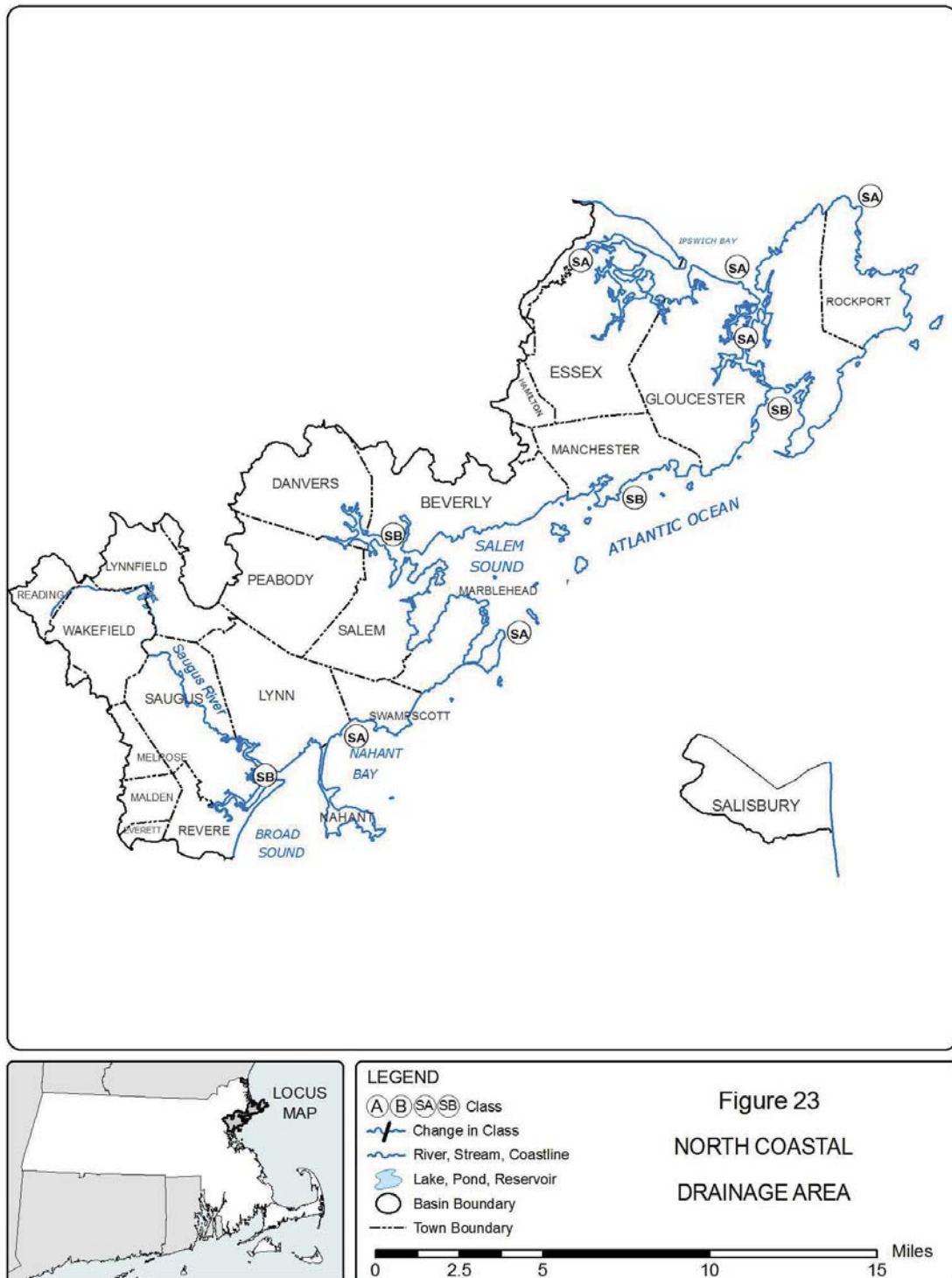
Date: April 23, 2007

N:\GEA\15 GPM Treatment System Schematic.dwg

Drawn By: JWG



4.06: continued



4.06: continued

TABLE 23
NORTH COASTAL DRAINAGE AREA

<u>BOUNDARY</u>	<u>MILE POINT</u>	<u>CLASS</u>	<u>QUALIFIERS</u>
The Essex River and its tributaries in Essex	-	SA*	Shellfishing Outstanding Resource Water
<u>Ebben, Lufkin, and Soginese Creek</u> Portion in Parker River/Essex Bay ACEC		SA	Shellfishing Outstanding Resource Water
Essex Bay	-	SA	Shellfishing Outstanding Resource Water
<u>Castle Neck River</u> Portion in Parker River /Essex Bay ACEC		SA	Shellfishing Outstanding Resource Water
Walker Creek, Lanes Creek and Farm Creek	-	SA	Shellfishing Outstanding Resource Water
Annisquam River	-	SA	Shellfishing
Rockport Harbor	-	SB	Shellfishing
Gloucester Harbor	-	SB	Shellfishing CSO
Manchester Harbor	-	SB	Shellfishing
Beverly Harbor	-	SB	Shellfishing
Salem Harbor	-	SB	Shellfishing
Marblehead Harbor	-	SA	Shellfishing
Massachusetts Bay	-	SA	Shellfishing
Nahant Bay	-	SA	Shellfishing CSO
Lynn Harbor	-	SB	Shellfishing CSO
<u>Saugus River</u>			
Source to canal which discharges into Hawkes Pond	13.6 – 10.5	B	Treated Water Supply
Canal which discharges into Hawkes Pond to Saugus Iron Works/Bridge Street	10.5 – 5.1	B	

* Marine waters Class SA

4.06: continued

TABLE 23
NORTH COASTAL DRAINAGE AREA (continued)

<u>BOUNDARY</u>	<u>MILE POINT</u>	<u>CLASS</u>	<u>QUALIFIERS</u>
Saugus Iron Works/ Bridge Street to Boston Street bridge	5.1 – 3.1	SB	Shellfishing
Boston Street bridge to mouth	3.1 - 0.0	SB	Shellfishing Outstanding Resource Water CSO
<u>Pines River</u>			
Source to mouth		SB	Outstanding Resource Water
Diamond Creek		SA	Outstanding Resource Water
<u>Spring Pond and Griswold Pond</u>			
Source to outlet in Saugus	-	B	Outstanding Resource Water
<u>Babson Reservoir</u>			
Source to outlet in Gloucester and those tributaries thereto	-	A	Public Water Supply
<u>Haskell Pond</u> <u>(Haskell Reservoir)</u>			
Source to outlet in Gloucester and those tributaries thereto	-	A	Public Water Supply
<u>Goose Cove Reservoir</u>			
Source to outlet in Gloucester and those tributaries thereto	-	A	Public Water Supply
<u>Dykes Pond</u> <u>(Dykes Reservoir)</u>			
Source to outlet in Gloucester and those tributaries thereto	-	A	Public Water Supply
<u>Wallace Pond</u> <u>(Wallace Reservoir)</u>			
Source to outlet in Gloucester and those tributaries thereto	-	A	Public Water Supply
<u>Fernwood Lake</u>			
Source to outlet in Gloucester and those tributaries thereto	-	A	Public Water Supply

4.06: continued

TABLE 23
NORTH COASTAL DRAINAGE AREA (continued)

<u>BOUNDARY</u>	<u>MILE POINT</u>	<u>CLASS</u>	<u>QUALIFIERS</u>
<u>Klondike Reservoir</u> (<u>Quarry Reservoir</u>)			
Source to outlet in Gloucester	-	A	Public Water Supply
<u>Hawkes Pond</u>			
Source to outlet in Saugus and those tributaries thereto	-	A	Public Water Supply
<u>Birch Pond</u>			
Source to outlet in Saugus and Lynn and those tributaries thereto	-	A	Public Water Supply
<u>Breeds Pond</u>			
Source to outlet in Lynn and those tributaries thereto	-	A	Public Water Supply
<u>Walden Pond</u>			
Source to outlet in Lynn and those tributaries thereto	-	A	Public Water Supply
<u>Gravelly Pond</u>			
Source to outlet in Hamilton and those tributaries thereto	-	A	Public Water Supply
<u>Spring Pond</u>			
Source to outlet in Peabody and those tributaries thereto	-	A	Public Water Supply
<u>Cape Pond</u>			
Source to outlet in Rockport and tributaries thereto	-	A	Public Water Supply
<u>Quarry Reservoir</u> (<u>Carlson's Quarry</u>)			
Source to outlet in Rockport and those tributaries thereto	-	A	Public Water Supply
<u>Crystal Lake</u>			
Source to outlet in Wakefield and those tributaries thereto	-	A	Public Water Supply

Massachusetts Category 5 Waters “Waters requiring a TMDL”

NAME	SEGMENT ID	DESCRIPTION	SIZE	POLLUTANT NEEDING TMDL [EPA APPROVAL DATE-DOCUMENT CONTROL NUMBER]
Causeway Brook (9355075)	MA93-47_2008	Headwaters, outlet Dexter Pond, Manchester to confluence with Cat Brook, Manchester.	1.1 miles	-Fecal Coliform
Crane Brook (9355325)	MA93-02_2008	Headwaters east of Route 95, Danvers to inlet Mill Pond, Danvers.	1.8 miles	-Fecal Coliform
Crane River (9355275)	MA93-41_2008	Outlet pump house sluiceway, Purchase Street, Danvers to confluence with Danvers River, Danvers.	0.07 sq mi	-Fecal Coliform
Danvers River (9355200)	MA93-09_2008	Confluence of Porter, Crane and Waters rivers, Danvers to mouth at Beverly Harbor, Beverly/Salem.	0.53 sq mi	-Fecal Coliform
Essex Bay (93901)	MA93-16_2008	The waters landward of Ipswich Bay contained within an imaginary line drawn from the northwestern tip of Gloucester near Coffins Beach to the southern tip of Castle Neck, Ipswich to the eastern most point of Dilly Island, Essex (mouth of Castle Neck River) and then from Cross Island, Essex to Conomo Point, Essex (mouth of Essex River) excluding Walker, Lanes, and Farm creeks.	1.0 sq mi	-Fecal Coliform
Essex River (9354625)	MA93-11_2008	Source east of Southern Avenue, Essex to mouth at Essex Bay, Essex.	0.50 sq mi	-Fecal Coliform
Flax Pond (93023)	MA93023_2008	Lynn	55.4 acres	-Chlordane -DDT -Excess Algal Growth -(Non-Native Aquatic Plants*) -Turbidity
Floating Bridge Pond (93024)	MA93024_2008	Lynn	11.9 acres	-Excess Algal Growth -Turbidity -Phosphorus (Total)
Forest River (9355500)	MA93-10_2008	Approximately 0.4 miles upstream of Loring Avenue, Salem to Salem Harbor, Salem.	0.03 sq mi	-Dissolved oxygen saturation
Foster Pond (93026)	MA93026_2008	Swampscott	4.6 acres	-DDT
Frost Fish Brook (9355250)	MA93-36_2008	Cabot Road, Danvers to Porter River confluence at Route 62, Danvers.	1.0 miles	-Fecal Coliform
Gloucester Harbor (93903)	MA93-18_2008	The waters landward of an imaginary line drawn between Mussel Point and the tip of the Dog Bar Breakwater, Gloucester excluding the Annisquam River.	2.3 sq mi	-Combined Biota/Habitat Bioassessments -Dissolved oxygen saturation -Fecal Coliform
Goldthwait Brook (9355450)	MA93-05_2008	Outlet Cedar Pond, Peabody to confluence with Proctor Brook, Peabody.	3.3 miles	-(Debris/Floatables/Trash*) -Foam/Flocs/Scum/Oil Slicks -(Low flow alterations*) -Oxygen, Dissolved -Fecal Coliform -Phosphorus (Total) -(Alteration in stream-side or littoral vegetative covers*)
Hawkes Brook (9355650)	MA93-32_2008	Headwaters near the Lynn/Lynnfield border to the inlet of Hawkes Pond, Lynnfield.	2.6 miles	-Fecal Coliform
Hawkes Brook (9355650)	MA93-33_2008	Outlet of Hawkes Pond, Saugus to confluence with Saugus River, Saugus.	1.1 miles	-Fecal Coliform
Hawkes Pond (93032)	MA93032_2008	Lynnfield/Saugus	65.2 acres	-Turbidity
Lily Pond (93039)	MA93039_2008	Gloucester	23.7 acres	-Excess Algal Growth -Turbidity -Nutrient/Eutrophication Biological Indicators



Table 1 - Summary of Groundwater Analytical Results
Residential Property
274 Locust Street
Danvers, MA
RTN 3-27042

Analytical Parameters	MassDEP GW-2 Cleanup Standards	Sample ID / Results								
		MW-1 10/2/2007	MW-1 12/11/2007	MW-1 4/22/2008	MW-1 10/31/2008	MW-1 3/27/2009	MW-1 7/10/2009	MW-1 10/23/2009	MW-1 5/10/2010	MW-1 11/19/2010
Extractable Petroleum Hydrocarbons	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
C9-C18 Aliphatics	5,000	ND (220)	ND (200)	ND (200)	ND (211)	ND (200)	ND (200)	ND (206)	ND (200)	ND (200)
C19-C36 Aliphatics	N/A	ND (220)	ND (200)	ND (200)	ND (211)	ND (200)	ND (200)	ND (206)	ND (200)	ND (200)
C11-C22 Aromatics	50,000	ND (170)	ND (150)	ND (150)	ND (158)	ND (150)	ND (150)	ND (155)	ND (150)	ND (150)
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Naphthalene	1,000	ND (4.0)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)
2-Methylnaphthalene	2,000	ND (4.0)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)
Acenaphthene	N/A	ND (4.0)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)
Phenanthrene	N/A	ND (4.0)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)
Volatile Petroleum Hydrocarbons	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
C5-C8 Aliphatics	3,000	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
C9-C12 Aliphatics	5,000	ND (50)	ND (50)	54	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
C9-C10 Aromatics	7,000	ND (10)	ND (10)	ND (20)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Benzene	2,000	ND (2.0)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Ethylbenzene	20,000	ND (2.0)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Methyl tert-butyl ether	50,000	ND (2.0)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Naphthalene	1,000	ND (2.0)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Toluene	50,000	ND (2.0)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
m,p-Xylene	9,000	ND (4.0)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)
o-Xylene	9,000	ND (2.0)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
TOTAL PETROLEUM HYDROCARBONS (TPH)	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Diesel Range Organics (C10-C28)	5,000	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

All results in micrograms per liter (ug/L) or ppb

1. **Bold** - Exceeds GW-2 MCP Standards

2. NA - Not Analyzed

* - Estimated by Analytics Environmental Laboratory

3. ND - Not Detected Above Reporting Limits (noted in parenthesis)



Table 1 - Summary of Groundwater Analytical Results
Residential Property
274 Locust Street
Danvers, MA
RTN 3-27042

Analytical Parameters	MassDEP GW-2 Cleanup Standards	Sample ID / Results						
		MW-2 10/2/2007	MW-2 3/27/2009	MW-2 7/10/2009	MW-2 12/30/2009	MW-2 3/10/2010	MW-2 5/10/2010	MW-2 11/29/2010
Extractable Petroleum Hydrocarbons	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
C9-C18 Aliphatics	5,000	ND (200)	313	1,140	NA	101*	247	299
C19-C36 Aliphatics	N/A	ND (200)	159*	676	NA	ND (200)	118*	ND (205)
C11-C22 Aromatics	50,000	245	101*	155	NA	ND (150)	145*	333
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Naphthalene	1,000	45	ND (4)	ND (4)	NA	ND (4)	ND (4)	ND (4)
2-Methylnaphthalene	2,000	41	ND (4)	ND (4)	NA	ND (4)	ND (4)	ND (4)
Acenaphthene	N/A	ND (4.0)	ND (4)	ND (4)	NA	ND (4)	ND (4)	ND (4)
Phenanthrene	N/A	ND (4.0)	ND (4)	ND (4)	NA	ND (4)	ND (4)	ND (4)
Volatile Petroleum Hydrocarbons	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
C5-C8 Aliphatics	3,000	307	ND (50)	ND (50)	NA	ND (50)	ND (50)	ND (50)
C9-C12 Aliphatics	5,000	1,920	25*	27*	NA	111	32*	ND (50)
C9-C10 Aromatics	7,000	529	ND (10)	20	NA	230	25	180
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Benzene	2,000	23	ND (2)	ND (2)	NA	ND (2)	ND (2)	ND (2)
Ethylbenzene	20,000	12	ND (2)	ND (2)	NA	ND (2)	ND (2)	ND (2)
Methyl tert-butyl ether	50,000	ND (10.0)	ND (2)	ND (2)	NA	ND (2)	ND (2)	ND (2)
Naphthalene	1,000	81	ND (2)	ND (2)	NA	5	ND (2)	15
Toluene	50,000	12	ND (2)	ND (2)	NA	ND (2)	ND (2)	ND (2)
m,p-Xylene	9,000	106	ND (4)	ND (4)	NA	ND (4)	ND (4)	ND (4)
o-Xylene	9,000	72	ND (2)	ND (2)	NA	ND (2)	ND (2)	1*
TOTAL PETROLEUM HYDROCARBONS (TPH)	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Diesel Range Organics (C10-C28)	5,000	NA	NA	NA	1,340	NA	NA	NA

Notes:

All results in micrograms per liter (ug/L) or ppb

1. **Bold** - Exceeds GW-2 MCP Standards

2. NA - Not Analyzed

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3. ND - Not Detected Above Reporting Limits (noted in parenthesis)



Table 1 - Summary of Groundwater Analytical Results
Residential Property
274 Locust Street
Danvers, MA
RTN 3-27042

Analytical Parameters	MassDEP GW-2 Cleanup Standards	Sample ID / Results							
		MW-3 10/2/2007	MW-3 12/11/2007	MW-3 3/27/2009	MW-3 7/10/2009	MW-3 12/30/2009	MW-3 3/10/2010	MW-3 5/10/2010	MW-3 11/19/2010
Extractable Petroleum Hydrocarbons	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
C9-C18 Aliphatics	5,000	8,420	261	1,770	368	NA	340	1,100	6,320
C19-C36 Aliphatics	N/A	2,520	ND (200)	779	118*	NA	138*	301	1420*
C11-C22 Aromatics	50,000	4,860	708	505	197	NA	372	665	2,590
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Naphthalene	1,000	153	43	ND (4)	ND (4)	NA	5	4	5
2-Methylnaphthalene	2,000	232	49	ND (4)	ND (4)	NA	18	14	16
Acenaphthene	N/A	11	2	ND (4)	ND (4)	NA	ND (4)	2*	7
Phenanthrene	N/A	32	3	ND (4)	ND (4)	NA	2*	3*	4
Volatile Petroleum Hydrocarbons	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
C5-C8 Aliphatics	3,000	1,880	91	ND (50)	ND (50)	NA	ND (50)	ND (50)	ND (100)
C9-C12 Aliphatics	5,000	11,900	731	57	61	NA	242	343	ND (100)
C9-C10 Aromatics	7,000	3,140	202	48	53	NA	477	301	714
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Benzene	2,000	99	8	ND (2)	ND (2)	NA	ND (2)	ND (2)	ND (4)
Ethylbenzene	20,000	116	9	ND (2)	ND (2)	NA	ND (2)	ND (2)	ND (4)
Methyl tert-butyl ether	50,000	ND (40.0)	3	ND (2)	ND (2)	NA	ND (2)	ND (2)	ND (4)
Naphthalene	1,000	391	23	ND (2)	ND (2)	NA	11	9	21
Toluene	50,000		4	ND (2)	ND (2)	NA	ND (2)	ND (2)	ND (4)
m,p-Xylene	9,000	290	21	ND (4)	ND (4)	NA	ND (2)	ND (4)	ND (8)
o-Xylene	9,000	220	23	1*	ND (2)	NA	3	2	3*
TOTAL PETROLEUM HYDROCARBONS (TPH)	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Diesel Range Organics (C10-C28)	5,000	NA	NA	NA	NA	8,620	NA	NA	NA

Notes:

All results in micrograms per liter (ug/L) or ppb

1. **Bold** - Exceeds GW-2 MCP Standards

2. NA - Not Analyzed

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3. ND - Not Detected Above Reporting Limits (noted in parenthesis)



Table 1 - Summary of Groundwater Analytical Results
Residential Property
274 Locust Street
Danvers, MA
RTN 3-27042

Analytical Parameters	MassDEP GW-2 Cleanup Standards	Sample ID / Results						
		MW-4 4/22/2008	MW-4 10/31/2008	MW-4 3/27/2009	MW-4 7/10/2009	MW-4 10/23/2009	MW-4 5/10/2010	MW-4 11/19/2010
Extractable Petroleum Hydrocarbons	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
C9-C18 Aliphatics	5,000	ND (200)	ND (211)	ND (200)	ND (200)	ND (200)	ND (200)	ND (204)
C19-C36 Aliphatics	N/A	ND (200)	ND (211)	ND (200)	ND (200)	ND (200)	ND (200)	ND (204)
C11-C22 Aromatics	50,000	820	ND (158)	ND (150)	ND (150)	ND (150)	ND (150)	ND (153)
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Naphthalene	1,000	21	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)
2-Methylnaphthalene	2,000	78	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)
Acenaphthene	N/A	5	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)
Phenanthrene	N/A	4	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)
Volatile Petroleum Hydrocarbons	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
C5-C8 Aliphatics	3,000	ND (1000)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
C9-C12 Aliphatics	5,000	2,240	ND (50)	ND (50)	ND (50)	38*	ND (50)	ND (50)
C9-C10 Aromatics	7,000	493	ND (10)	ND (10)	11	17	ND (10)	ND (10)
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Benzene	2,000	ND (40)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Ethylbenzene	20,000	ND (40)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Methyl tert-butyl ether	50,000	ND (40)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Naphthalene	1,000	ND (40)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Toluene	50,000	ND (40)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
m,p-Xylene	9,000	ND (80)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)	ND (4)
o-Xylene	9,000	ND (40)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
TOTAL PETROLEUM HYDROCARBONS (TPH)	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Diesel Range Organics (C10-C28)	5,000	NA	NA	NA	NA	NA	NA	NA

Notes:

All results in micrograms per liter (ug/L) or ppb

1. **Bold** - Exceeds GW-2 MCP Standards

2. NA - Not Analyzed

* - Estimated by Analytics Environmental Laboratory

3. ND - Not Detected Above Reporting Limits (noted in parenthesis)



Table 1 - Summary of Groundwater Analytical Results
Residential Property
274 Locust Street
Danvers, MA
RTN 3-27042

Analytical Parameters	MassDEP GW-2 Cleanup Standards	Sample ID / Results					
		MW-5 10/31/2008	MW-5 3/27/2009	MW-5 7/10/2009	MW-5 10/23/2009	MW-5 5/10/2010	MW-5 11/19/2010
Extractable Petroleum Hydrocarbons	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
C9-C18 Aliphatics	5,000	526	ND (200)	934	322	294	ND (200)
C19-C36 Aliphatics	N/A	ND (204)	ND (200)	331	ND (198)	ND (200)	ND (200)
C11-C22 Aromatics	50,000	1,080	232	1,180	506	823	294
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Naphthalene	1,000	92	13	7	5	19	3*
2-Methylnaphthalene	2,000	148	24	14	11	71	6
Acenaphthene	N/A	8	ND (4)	5	3*	5	ND (4)
Phenanthrene	N/A	6	ND (4)	3*	2*	6	ND (4)
Volatile Petroleum Hydrocarbons	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
C5-C8 Aliphatics	3,000	ND (250)	ND (50)	ND (100)	ND (250)	53*	ND (50)
C9-C12 Aliphatics	5,000	793	264	385	660	617	ND (50)
C9-C10 Aromatics	7,000	888	331	445	418	805	156
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Benzene	2,000	ND (10)	ND (2)	ND (4)	ND (10)	ND (4)	ND (2)
Ethylbenzene	20,000	24	1*	ND (4)	ND (10)	2*	ND (2)
Methyl tert-butyl ether	50,000	ND (10)	ND (2)	ND (4)	ND (10)	ND (4)	ND (2)
Naphthalene	1,000	104	20	11	15	33	5
Toluene	50,000	ND (10)	ND (2)	ND (4)	ND (10)	ND (4)	28
m,p-Xylene	9,000	45	12	6*	ND (20)	14	2*
o-Xylene	9,000	14	8	8	9*	12	1*
TOTAL PETROLEUM HYDROCARBONS (TPH)	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Diesel Range Organics (C10-C28)	5,000	NA	NA	NA	NA	NA	NA

Notes:

All results in micrograms per liter (ug/L) or ppb

1. Bold - Exceeds GW-2 MCP Standards

2. NA - Not Analyzed

* - Estimated by Analytics Environmental Laboratory

3. ND - Not Detected Above Reporting Limits (noted in parenthesis)



Table 1 - Summary of Groundwater Analytical Results
Residential Property
274 Locust Street
Danvers, MA
RTN 3-27042

Analytical Parameters	MassDEP GW-2 Cleanup Standards	Sample ID / Results						
		MW-6 4/22/2008	MW-6 10/31/2008	MW-6 3/27/2009	MW-6 7/10/2009	MW-6 10/23/2009	MW-6 5/10/2010	MW-6 11/19/2010
Extractable Petroleum Hydrocarbons	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
C9-C18 Aliphatics	5,000	ND (200)	ND (208)	110*	121*	ND (220)	106*	ND (201)
C19-C36 Aliphatics	N/A	ND (200)	ND (208)	ND (200)	ND (200)	ND (220)	ND (200)	ND (201)
C11-C22 Aromatics	50,000	661	473	247	419	315	489	217
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Naphthalene	1,000	13	10	4	9	4	20	3*
2-Methylnaphthalene	2,000	47	22	10	9	7	50	4
Acenaphthene	N/A	4	ND (4)	ND (4)	2*	ND (4)	3*	ND (4)
Phenanthrene	N/A	4	3	ND (4)	2*	ND (4)	4	2*
Volatile Petroleum Hydrocarbons	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
C5-C8 Aliphatics	3,000	ND (1000)	ND (50)	ND (50)	ND (50)	ND (130)	29*	ND (50)
C9-C12 Aliphatics	5,000	2,220	307	110	244	444	408	ND (50)
C9-C10 Aromatics	7,000	489	341	131	291	281	479	155
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Benzene	2,000	ND (40)	ND (2)	ND (2)	ND (2)	ND (5)	ND (2)	ND (2)
Ethylbenzene	20,000	ND (40)	1	ND (2)	ND (2)	ND (5)	ND (2)	ND (2)
Methyl tert-butyl ether	50,000	ND (40)	ND (2)	ND (2)	ND (2)	ND (5)	ND (2)	ND (2)
Naphthalene	1,000	ND (40)	13	5	14	ND (5)	27	3
Toluene	50,000	ND (40)	ND (2)	ND (2)	ND (2)	ND (5)	ND (2)	2
m,p-Xylene	9,000	ND (80)	ND (4)	ND (4)	4	ND (10)	6	ND (4)
o-Xylene	9,000	ND (40)	6	ND (2)	7	5	13	5
TOTAL PETROLEUM HYDROCARBONS (TPH)	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Diesel Range Organics (C10-C28)	5,000	NA	NA	NA	NA	NA	NA	NA

Notes:

All results in micrograms per liter (ug/L) or ppb

1. **Bold** - Exceeds GW-2 MCP Standards

2. NA - Not Analyzed

* - Estimated by Analytics Environmental Laboratory

3. ND - Not Detected Above Reporting Limits (noted in parenthesis)



Table 1 - Summary of Groundwater Analytical Results
Residential Property
274 Locust Street
Danvers, MA
RTN 3-27042

Analytical Parameters	MassDEP GW-2 Cleanup Standards	Sample ID / Results						
		MW-7 12/11/2007	MW-7 10/31/2008	MW-7 3/27/2009	MW-7 7/10/2009	MW-7 10/23/2009	MW-7 5/10/2010	MW-7 11/19/2010
Extractable Petroleum Hydrocarbons	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
C9-C18 Aliphatics	5,000	224	ND (204)	243	3,130	167*	261	137*
C19-C36 Aliphatics	N/A	ND (200)	ND (204)	106*	952*	ND (204)	104*	ND (200)
C11-C22 Aromatics	50,000	475	180	271	1,650	324	501	446
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Naphthalene	1,000	14	ND (4)	3*	12	ND (4)	3*	ND (4)
2-Methylnaphthalene	2,000	21	ND (4)	4	46	8	26	ND (4)
Acenaphthene	N/A	ND (4)	ND (4)	ND (4)	6	ND (4)	3*	ND (4)
Phenanthrene	N/A	ND (4)	ND (4)	ND (4)	4*	ND (4)	3*	ND (4)
Volatile Petroleum Hydrocarbons	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
C5-C8 Aliphatics	3,000	ND (50)	ND (50)	ND (50)	ND (130)	ND (100)	28*	ND (50)
C9-C12 Aliphatics	5,000	1,310	85	142	720	312	342	ND (50)
C9-C10 Aromatics	7,000	352	100	159	615	185	393	261
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Benzene	2,000	ND (2)	ND (2)	ND (2)	ND (5)	ND (4)	ND (2)	ND (2)
Ethylbenzene	20,000	ND (2)	ND (2)	ND (2)	ND (5)	ND (4)	ND (2)	ND (2)
Methyl tert-butyl ether	50,000	ND (2)	ND (2)	ND (2)	ND (5)	ND (4)	ND (2)	ND (2)
Naphthalene	1,000	31	ND (2)	3	23	ND (4)	6	4
Toluene	50,000	ND (2)	ND (2)	ND (2)	ND (5)	ND (4)	ND (2)	1*
m,p-Xylene	9,000	29	ND (4)	2*	5*	ND (8)	ND (4)	ND (4)
o-Xylene	9,000	45	ND (2)	2	6	ND (4)	1*	ND (2)
TOTAL PETROLEUM HYDROCARBONS (TPH)	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Diesel Range Organics (C10-C28)	5,000	NA	NA	NA	NA	NA	NA	NA

Notes:

All results in micrograms per liter (ug/L) or ppb

1. **Bold** - Exceeds GW-2 MCP Standards

2. NA - Not Analyzed

* - Estimated by Analytics Environmental Laboratory

3. ND - Not Detected Above Reporting Limits (noted in parenthesis)



Massachusetts StreamStats

Streamstats Ungaged Site Report

Date: Mon Dec 6 2010 08:20:36 Mountain Standard Time

Site Location: Massachusetts

NAD27 Latitude: 42.5747 (42 34 29)

NAD27 Longitude: -70.9286 (-70 55 43)

NAD83 Latitude: 42.5748 (42 34 29)

NAD83 Longitude: -70.9281 (-70 55 41)

ReachCode: 01090001020791

Measure: 90.37

Drainage Area: 2.56 mi2

Low Flows Basin Characteristics			
100% Statewide Low Flow (2.56 mi2)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	2.56	1.61	149
Mean Basin Slope from 250K DEM (percent)	2.04	0.32	24.6
Stratified Drift per Stream Length (square mile per mile)	0.13	0	1.29
Massachusetts Region (dimensionless)	0	0	1

Probability of Perennial Flow Basin Characteristics			
100% Perennial Flow Probability (2.56 mi2)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	2.56 (above max value 1.99)	0.01	1.99
Percent Underlain By Sand And Gravel (percent)	22.71	0	100
Percent Forest (percent)	23.68	0	100
Massachusetts Region (dimensionless)	0	0	1

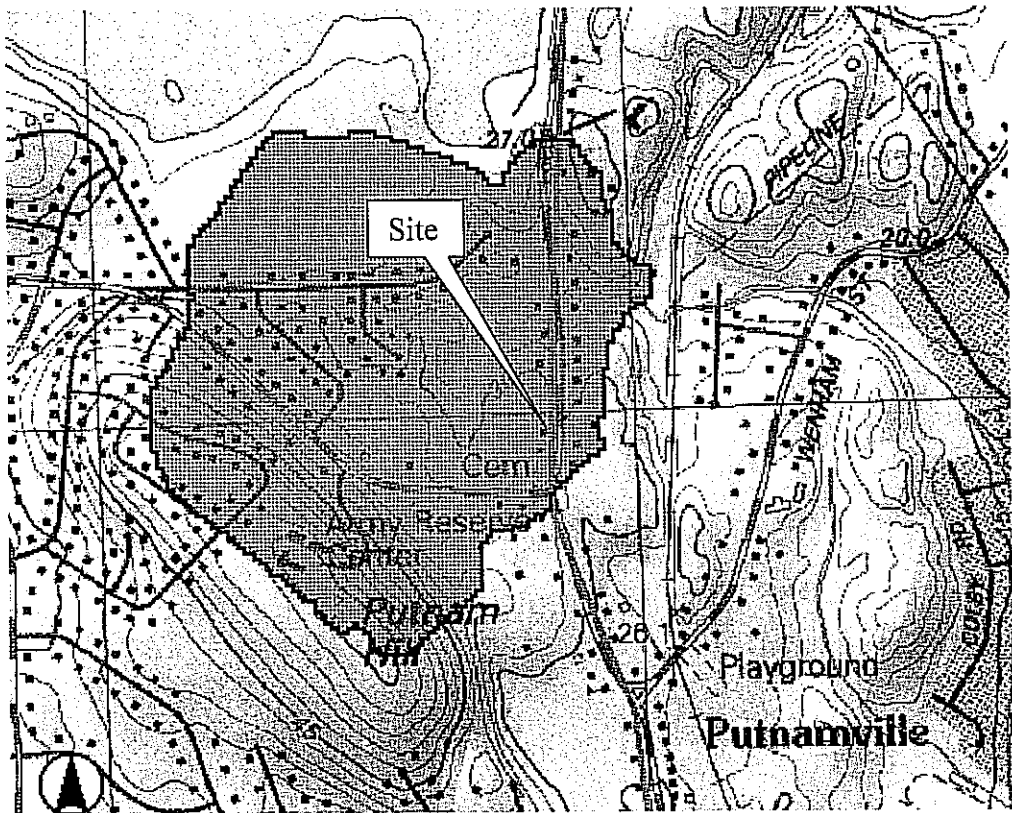
Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Low Flows Streamflow Statistics					
Statistic	Flow (ft ³ /s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
D50	2.49	18		1.03	5.96
D60	1.71	20		0.76	3.84
D70	0.98	24		0.43	2.23
D75	0.74	26		0.32	1.7
D80	0.57	28		0.24	1.3
D85	0.4	32		0.17	0.96
D90	0.28	37		0.11	0.71
D95	0.16	46		0.0555	0.43
D98	0.0991	60		0.0304	0.31
D99	0.0707	65		0.0204	0.23
M7D2Y	0.17	50		0.0579	0.49
AUGD50	0.44	33		0.18	1.05
M7D10Y	0.0612	71		0.0161	0.22

The equation for estimating the probability of perennial flow is applicable for most areas of Massachusetts except eastern Buzzards Bay, Cape Cod, and the Island regions. The estimate obtained from the equation assumes natural flow conditions at the site. The equation also is best used for sites with drainage areas between 0.01 to 1.99 mi2, as errors beyond for basins beyond these bounds are unknown.

Probability of Perennial Flow Statistics		
Statistic	Value	Standard Error (percent)
PROBPEREN	0.97	

USGS Stream Stats



Legend

- ★ Point Delineation
- ▨ Watershed Delineation
- Place Names
- HIGHWAYS
- Interstates
- Highways
- Secondary Roads
- ROADS
- Local Roads
- Towns
- 25K NHD Flowlines
- Gray 30M Relief
- 24K_DRG
- 0
- 1
- 2
- 3
- 4
- 5
- 6
-



Species Profile

Environmental Conservation Online System

(<http://www.fws.gov>)

Green sea turtle (Chelonia mydas)

Kingdom: Animalia Class: Reptilia Order: Testudines Family: Cheloniidae

Listing Status: Endangered and Threatened

Quick links: [Federal Register \(#status\)](#) [Recovery \(#recovery\)](#) [Critical Habitat \(#crithab\)](#) [Conservation Plans \(#conservationPlans\)](#) [Petitions \(#petitions\)](#) [Life History \(#lifeHistory\)](#) [Other Resources \(#other\)](#)

General Information

The green sea turtle grows to a maximum size of about 4 feet and a weight of 440 pounds. It has a heart-shaped shell, small head, and single-clawed flippers. Color is variable. Hatchlings generally have a black carapace, white plastron, and white margins on the shell and limbs. The adult carapace is smooth, keelless, and light to dark brown with dark mottling; the plastron is whitish to light yellow. Adult heads are light brown with yellow markings. Identifying characteristics include four pairs of costal scutes, none of which borders the nuchal scute, and only one pair of prefrontal scales between the eyes.

Population detail

The FWS is currently monitoring the following populations of the Green sea turtle

- **Population location:** Breeding colony populations in FL and on Pacific coast of Mexico

Listing status: Endangered

States/US Territories in which this population is known to or is believed to occur: [Florida](#)
[\(/speciesProfile/profile/countiesByState.action?entityId=157&state=Florida\)](#)

US Counties in which this population is known to or is believed to occur: [View All](#)
[\(/speciesProfile/profile/countiesBySpecies.action?entityId=157\)](#)

USFWS Refuges in which this population is known to occur: ARCHIE CARR NATIONAL WILDLIFE REFUGE, CEDAR KEYS NATIONAL WILDLIFE REFUGE, CHASSAHOWITZKA NATIONAL WILDLIFE REFUGE, EGMONT KEY NATIONAL WILDLIFE REFUGE, HOBE SOUND NATIONAL WILDLIFE REFUGE ... [Show All Refuges \(javascript:toggleRefuges\('on'\)\)](#)

Countries in which the this population is known to occur: Mexico, United States

For more information: <http://www.fws.gov/northflorida/Species-Accounts/SpeciesInfo.htm>
<http://www.fws.gov/northflorida/Species-Accounts/SpeciesInfo.htm>

- **Population location:** Wherever found except where listed as endangered

Listing status: Threatened

States/US Territories in which this population is known to or is believed to occur: [Alabama](#)



[entityId=158&state=Texas](#) , [Virgin Islands \(/speciesProfile/profile/countiesByState.action?entityId=158&state=Virgin%20Islands\)](#) , [Virginia \(/speciesProfile/profile/countiesByState.action?entityId=158&state=Virginia\)](#) , [Washington \(/speciesProfile/profile/countiesByState.action?entityId=158&state=Washington\)](#)

US Counties in which this population is known to or is believed to occur: [View All \(/speciesProfile/profile/countiesBySpecies.action?entityId=158\)](#)

USFWS Refuges in which this population is known to occur: ARANSAS NATIONAL WILDLIFE REFUGE, BACK BAY NATIONAL WILDLIFE REFUGE, BRETON NATIONAL WILDLIFE REFUGE, CULEBRA NATIONAL WILDLIFE REFUGE, DELTA NATIONAL WILDLIFE REFUGE
[... Show All Refuges \(javascript:toggleRefuges\('on'\)\)](#)

Countries in which the this population is known to occur: American Samoa, Angola, Anguilla, Antigua and Barbuda, Australia, Bahamas, Bahrain, Bangladesh, Barbados, Belize, Brazil, British Indian Ocean Territory, British Virgin Islands, Cameroon, Cayman Islands, China, Christmas Island, Cocos (Keeling) Islands, Colombia, Comoros, Cook Islands, Costa Rica, Cuba, Cyprus, Dominica, Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Federated States of Micronesia, Fiji, French Guiana, French Polynesia, French Southern Territories, Gabon, Gambia, Ghana, Grenada, Guam, Guatemala, Guinea-Bissau, Guyana, Haiti, India, Indonesia, Iran, Israel, Jamaica, Japan, Kenya, Kiribati, Kuwait, Liberia, Madagascar, Malaysia, Maldives, Marshall Islands, Martinique, Mauritania, Mayotte, Mexico, Mozambique, Myanmar (Burma), Nauru, Netherlands Antilles, New Caledonia, New Zealand, Nicaragua, Niue, Northern Mariana Islands, Oman, Pakistan, Palau, Panama, Papua New Guinea, Peru, Philippines, Puerto Rico, Reunion, Saint Helena, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sao Tome and Principe, Saudi Arabia, Senegal, Seychelles, Sierra Leone, Solomon Islands, Somalia, Sri Lanka, Suriname, Syria, Taiwan, Tanzania, Thailand, Togo, Tokelau, Tonga, Trinidad and Tobago, Turkey, Turks and Caicos Islands, Tuvalu, U.S. Pacific Outlying Islands, U.S. Virgin Islands, United Arab Emirates, United States, Vanuatu, Venezuela, Vietnam, Yemen

For more information: <http://www.fws.gov/northflorida/Species-Accounts/SpeciesInfo.htm>
<http://www.fws.gov/northflorida/Species-Accounts/SpeciesInfo.htm>

Current Listing Status Summary

Status	Date Listed	Lead Region	Where Listed
Endangered	07/28/1978	Southeast Region (Region 4) http://www.fws.gov/southeast/	FL, Mexico nesting pops.
Threatened	07/28/1978	Southeast Region (Region 4) http://www.fws.gov/southeast/	except where endangered

» Federal Register Documents

Most Recent Federal Register Documents (Showing 5 of 12: [view all \(/speciesProfile/profile/displayAllDocuments!fedreg.action?spscode=C00S\)\)](#)

Date	Citation Page	Title
03/23/1999	64 FR 14051 14077	(NOAA/NMFS) Endangered and Threatened Species; Regulations Consolidation: Final Rule

Date	Citation Page	Title
09/02/1998	63 FR 46693 46701	Designated Critical Habitat; Green and Hawksbill Sea Turtles (http://ecos.fws.gov/docs/federal_register/fr3295.pdf)
12/04/1992	57 FR 57348 57358	(NOAA/NMFS) Threatened Fish and Wildlife; Threatened Marine Reptiles; Revisions to Enhance and Facilitate Compliance With Sea Turtle Conservation Requirements Applicable to Shrimp Trawlers; Restrictions Applicable to Shrimp Trawlers and Other Fisheries; 57 FR 57348 57358
04/30/1992	57 FR 18446 18461	Threatened Fish and Wildlife; Threatened Marine Reptiles; Revisions to Enhance and Facilitate Compliance with Sea Turtle Conservation Requirements Applicable to Shrimp Trawlers; Restrictions applicable to Shrimp Trawlers and Other Fisheries
06/29/1987	52 FR 24244 24262	NOAA--Sea Turtle Conservation; Shrimp Trawling Requirements; 52 FR 24244 - 24262

Most Recent Special Rule Publications (Showing 5 of 8: [view all](#)
(</speciesProfile/profile/displayAllDocuments!specialRule.action?sPCODE=C00S>))

Date	Citation Page	Title
03/23/1999	64 FR 14051 14077	(NOAA/NMFS) Endangered and Threatened Species; Regulations Consolidation; Final Rule (http://ecos.fws.gov/docs/federal_register/fr3606.pdf)
12/04/1992	57 FR 57348 57358	(NOAA/NMFS) Threatened Fish and Wildlife; Threatened Marine Reptiles; Revisions to Enhance and Facilitate Compliance With Sea Turtle Conservation Requirements Applicable to Shrimp Trawlers; Restrictions Applicable to Shrimp Trawlers and Other Fisheries; 57 FR 57348 57358
04/30/1992	57 FR 18446 18461	Threatened Fish and Wildlife; Threatened Marine Reptiles; Revisions to Enhance and Facilitate Compliance with Sea Turtle Conservation Requirements Applicable to Shrimp Trawlers; Restrictions applicable to Shrimp Trawlers and Other Fisheries
06/29/1987	52 FR 24244 24262	NOAA--Sea Turtle Conservation; Shrimp Trawling Requirements; 52 FR 24244 - 24262
09/28/1983	48 FR 44237	Sea Turtles; Transshipment of Green Sea Turtle Products Through Miami; Comment Period Reopened; 48 FR 44237

» Recovery

[Recovery Plan Information Search \(/roar/pub/ConfigureRecActionReport.do?path=ROAR Custom Queries.Public Actions AdHoc\)](/roar/pub/ConfigureRecActionReport.do?path=ROAR Custom Queries.Public Actions AdHoc)

- [Information Search FAQs \(http://www.fws.gov/endangered/recovery/ROAR_FAQs%2008-05-09_FINAL.pdf\)](http://www.fws.gov/endangered/recovery/ROAR_FAQs%2008-05-09_FINAL.pdf)

Current Recovery Plan(s)

Date	Title	Plan Action Status	Plan
10/29/1991	Recovery Plan for U.S. Population of Atlantic Green Turtle	View Implementation Progress (/roar/pub/planImplementationStatus.action?	Final

Date	Title	Plan Action Status	Plan
01/12/1998	Recovery Plan for U.S. Pacific Populations of the Green Turtle (http://ecos.fws.gov/docs/recovery_plan/981201e.pdf)	View Implementation Progress (/roar/pub/planImplementationStatus.action?documentId=400434&entityId=158)	Final Revis
10/29/1991	Recovery Plan for U.S. Population of Atlantic Green Turtle (http://ecos.fws.gov/docs/recovery_plan/911126c.pdf)	View Implementation Progress (/roar/pub/planImplementationStatus.action?documentId=400430&entityId=157)	Final Revis
01/12/1998	Recovery Plan for U.S. Pacific Populations of the East Pacific Green Turtle (http://ecos.fws.gov/docs/recovery_plan/981201f.pdf)	View Implementation Progress (/roar/pub/planImplementationStatus.action?documentId=400432&entityId=157)	Final Revis

Five Year Review

Date	Title
08/22/2007	Green sea turtle 5-yr review (/docs/five_year_review/doc1078.pdf)
08/22/2007	Green sea turtle 5-yr review (/docs/five_year_review/doc1078.pdf)

» Critical Habitat

Current Critical Habitat Documents (Showing 2 of 2)

Date	Citation Page	Title	Document Type	Status
03/23/1999	64 FR 14051 14077	(NOAA/NMFS) Endangered and Threatened Species; Regulations Consolidation; Final Rule (http://ecos.fws.gov/docs/federal_register/fr3606.pdf)	Final Rule	Final designated
09/02/1998	63 FR 46693 46701	Designated Critical Habitat; Green and Hawksbill Sea Turtles (http://ecos.fws.gov/docs/federal_register/fr3295.pdf)	Final Rule	Not Required

To learn more about critical habitat please see <http://criticalhabitat.fws.gov> (<http://criticalhabitat.fws.gov>)

» Conservation Plans

Habitat Conservation Plans (HCP) ([learn more \(/docs/conservation_plans/HCP_Incidental_Take.pdf\)](http://ecos.fws.gov/docs/conservation_plans/HCP_Incidental_Take.pdf))
(Showing 5 of 14: [view all \(/speciesProfile/profile/displayAllDocuments!hcp.action?sPCODE=C00S\)](http://speciesProfile/profile/displayAllDocuments!hcp.action?sPCODE=C00S))

HCP Plan Summaries
Crum, Blaine & Linda (ABM) (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=3193&region=4&type=HCP&rtype=1)
FML81, LLC (Greg Miller) (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=1619&region=4&type=HCP&rtype=1)
FML81A, LLC (Greg Miller) (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=1618&region=4&type=HCP&rtype=1)
Indian River County Sea Turtle (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=893&region=4&type=HCP&rtype=1)
Roberds, George (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=3201&region=4&type=HCP&rtype=1)

» Petitions

No petition findings have been published for the Green sea turtle.

» Life History

Habitat Requirements

Green turtles are generally found in fairly shallow waters (except when migrating) inside reefs, bays, and inlets. The turtles are attracted to lagoons and shoals with an abundance of marine grass and algae. Open beaches with a sloping platform and minimal disturbance are required for nesting. Green turtles apparently have a strong nesting site fidelity and often make long distance migrations between feeding grounds and nesting beaches. Hatchlings have been observed to seek refuge and food in Sargassum rafts.

Food Habits

Hatchling green turtles eat a variety of plants and animals, but adults feed almost exclusively on seagrasses and marine algae.

Movement / Home Range

The green turtle has a worldwide distribution in tropical and subtropical waters. Major green turtle nesting colonies in the Atlantic occur on Ascension Island, Aves Island, Costa Rica, and Surinam. Within the U.S., green turtles nest in small numbers in the U.S. Virgin Islands, Puerto Rico, Georgia, South Carolina, and North Carolina, and in larger numbers in Florida. The Florida green turtle nesting aggregation is recognized as a regionally significant colony. About 200 to 1,100 females are estimated to nest on beaches in the continental U.S. In the U.S. Pacific, over 90 percent of nesting throughout the Hawaiian archipelago occurs at the French Frigate Shoals, where about 200 to 700 females nest each year. Elsewhere in the U.S. Pacific, nesting takes place at scattered locations in the Commonwealth of the Northern Marianas, Guam, and American Samoa. In the western Pacific, the largest green turtle nesting aggregation in the world occurs on Raine Island, Australia, where thousands of females nest nightly in an average nesting season. In the Indian Ocean, major nesting beaches occur in Oman where 6,000 to 20,000 females are reported to nest annually.

Reproductive Strategy

The nesting season varies with the locality. In the Southeastern U.S., it is roughly June through September. Nesting occurs nocturnally at 2, 3, or 4-year intervals. Only occasionally do females produce clutches in successive years. A female may lay as many as nine clutches within a nesting season (overall average is about 3.3 nests per season) at about 13-day intervals. Clutch size varies from 75 to 200 eggs, with an average clutch size of 136 eggs reported for Florida. Incubation ranges from about 45 to 75 days, depending on incubation temperatures. Hatchlings generally emerge at night. Age at sexual maturity is believed to be 20 to 50 years.

Other

» Other Resources

[NatureServe Explorer Species Reports \(javascript:;\)](#) -- NatureServe Explorer is a source for authoritative conservation information on more than 50,000 plants, animals and ecological communities of the U.S and Canada. NatureServe Explorer provides in-depth information on rare and endangered species, but includes common plants and animals too. NatureServe Explorer is a product of NatureServe in collaboration with the Natural Heritage Network.

[ITIS Reports \(javascript:;\)](#) -- ITIS (the Integrated Taxonomic Information System) is a source for authoritative taxonomic information on plants, animals, fungi, and microbes of North America and the world.

Last updated: November 3, 2010

[FWS Endangered Home \(http://www.fws.gov/endangered/\)](http://www.fws.gov/endangered/) | [ECOS Home \(/ecos/indexPublic.do\)](#) | [Contact Us \(/ecos/helpdesk.do?version=SPECIES_PROFILE-1_2_37\)](#)



Species Profile

Environmental Conservation Online System

(<http://www.fws.gov>)

Hawksbill sea turtle (*Eretmochelys imbricata*)

Kingdom: Animalia Class: Reptilia Order: Testudines Family: Cheloniidae

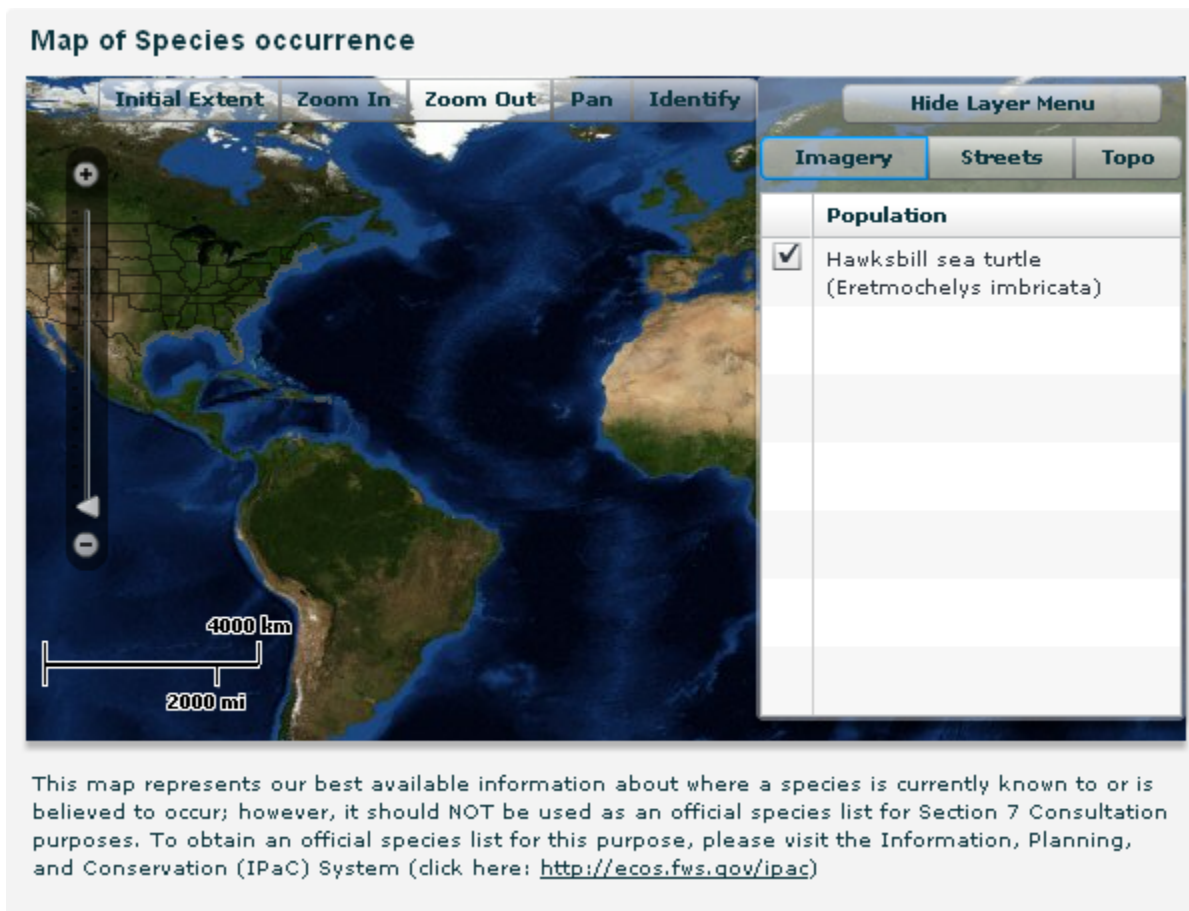
Listing Status: Endangered

Quick links: [Federal Register \(#status\)](#) [Recovery \(#recovery\)](#) [Critical Habitat \(#crithab\)](#) [Conservation Plans \(#conservationPlans\)](#) [Petitions \(#petitions\)](#) [Life History \(#lifeHistory\)](#) [Other Resources \(#other\)](#)

General Information

The endangered Hawksbill Sea Turtle is one of seven species of sea turtles found throughout the world. One of the smaller sea turtles, it has overlapping scutes (plates) that are thicker than those of other sea turtles. This protects them from being battered against sharp coral and rocks during storm events. Adults range in size from 30 to 36 inches (0.8-1.0 meters) carapace length, and weigh 100 to 200 pounds (45-90 kilograms). Its carapace (upper shell) is an attractive dark brown with faint yellow streaks and blotches and a yellow plastron (under shell). The name "hawksbill" refers to the turtle's prominent hooked beak.

States/US Territories in which the Hawksbill sea turtle is known to or is believed to occur: [Alabama \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Alabama\)](#) , [American Samoa \(/speciesProfile/profile/countiesByState.action?entityId=153&state=American Samoa\)](#) , [Connecticut \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Connecticut\)](#) , [Delaware \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Delaware\)](#) , [Florida \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Florida\)](#) , [Georgia \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Georgia\)](#) , [Guam \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Guam\)](#) , [Hawaii \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Hawaii\)](#) , [Louisiana \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Louisiana\)](#) , [Maine \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Maine\)](#) , [Maryland \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Maryland\)](#) , [Massachusetts \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Massachusetts\)](#) , [Mississippi \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Mississippi\)](#) , [New Hampshire \(/speciesProfile/profile/countiesByState.action?entityId=153&state=New Hampshire\)](#) , [New Jersey \(/speciesProfile/profile/countiesByState.action?entityId=153&state=New Jersey\)](#) , [New York \(/speciesProfile/profile/countiesByState.action?entityId=153&state=New York\)](#) , [North Carolina \(/speciesProfile/profile/countiesByState.action?entityId=153&state=North Carolina\)](#) , [Northern Mariana](#)



[Puerto Rico \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Puerto Rico\)](#) , [Rhode Island \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Rhode Island\)](#) , [South Carolina \(/speciesProfile/profile/countiesByState.action?entityId=153&state=South Carolina\)](#) , [Texas \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Texas\)](#) , [Virgin Islands \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Virgin Islands\)](#) , [Virginia \(/speciesProfile/profile/countiesByState.action?entityId=153&state=Virginia\)](#)

US Counties in which the Hawksbill sea turtle is known to or is believed to occur: [View All \(/speciesProfile/profile/countiesBySpecies.action?entityId=153\)](#)

USFWS Refuges in which the Hawksbill sea turtle is known to occur: ARANSAS NATIONAL WILDLIFE REFUGE, ARCHIE CARR NATIONAL WILDLIFE REFUGE, BAKER ISLAND NATIONAL WILDLIFE REFUGE, CULEBRA NATIONAL WILDLIFE REFUGE, DESECHEO NATIONAL WILDLIFE REFUGE ... [Show All Refuges \(javascript:toggleRefuges\('on'\)\)](#)

Countries in which the the Hawksbill sea turtle is known to occur: American Samoa, Antigua and Barbuda, Australia, Bahamas, Bahrain, Barbados, Belize, Brazil, British Indian Ocean Territory, British Virgin Islands, Cambodia, China, Colombia, Comoros, Costa Rica, Cuba, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Federated States of Micronesia, Fiji, French Southern Territories, Grenada, Guadeloupe, Guam, Honduras, India, Indonesia, Iran, Jamaica, Japan, Kenya, Kiribati, Kuwait, Madagascar, Malaysia, Maldives, Marshall Islands, Martinique, Mauritius, Mayotte, Mexico, Mozambique, Myanmar (Burma), Nauru, Netherlands Antilles, Nicaragua, Northern Mariana Islands, Oman, Palau, Panama, Papua New Guinea, Philippines, Puerto Rico, Qatar, Reunion, Saint Kitts and Nevis, Sao Tome and Principe, Saudi Arabia, Seychelles, Solomon Islands, Somalia, Sri Lanka,

For more information: <http://www.fws.gov/northflorida> (<http://www.fws.gov/northflorida>)

Current Listing Status Summary

Status	Date Listed	Lead Region	Where Listed
Endangered	06/02/1970	Southeast Region (Region 4) (http://www.fws.gov/southeast/)	

» Federal Register Documents

Most Recent Federal Register Documents (Showing 5 of 8: [view all \(/speciesProfile/profile/displayAllDocuments!fedreg.action?scode=C00E\)](#))

Date	Citation Page	Title
03/23/1999	64 FR 14051 14077	(NOAA/NMFS) Endangered and Threatened Species; Regulations Consolidation; Final Rule (http://ecos.fws.gov/docs/federal_register/fr3606.pdf)
09/02/1998	63 FR 46693 46701	Designated Critical Habitat; Green and Hawksbill Sea Turtles (http://ecos.fws.gov/docs/federal_register/fr3295.pdf)
06/29/1987	52 FR 24244 24262	NOAA--Sea Turtle Conservation; Shrimp Trawling Requirements; 52 FR 24244 - 24262
06/24/1982	47 FR 27295 27298	ETWP; Determination of Critical Habitat for Hawksbill Sea Turtle in Puerto Rico (http://ecos.fws.gov/docs/federal_register/fr599.pdf)
10/22/1980	45 FR 70198 70201	ETWP; Proposed Determination of Critical Habitat for Hawksbill Sea Turtle in Puerto Rico (http://ecos.fws.gov/docs/federal_register/fr490.pdf)

Most Recent Special Rule Publications (Showing 2 of 2)

Date	Citation Page	Title
03/23/1999	64 FR 14051 14077	(NOAA/NMFS) Endangered and Threatened Species; Regulations Consolidation; Final Rule (http://ecos.fws.gov/docs/federal_register/fr3606.pdf)
06/29/1987	52 FR 24244 24262	NOAA--Sea Turtle Conservation; Shrimp Trawling Requirements; 52 FR 24244 - 24262

» Recovery

[Recovery Plan Information Search \(/roar/pub/ConfigureRecActionReport.do?path=ROAR Custom Queries.Public Actions AdHoc\)](#)

- [Information Search FAQs \(http://www.fws.gov/endangered/recovery/ROAR_FAQs%2008-05-09_FINAL.pdf\)](http://www.fws.gov/endangered/recovery/ROAR_FAQs%2008-05-09_FINAL.pdf)

Current Recovery Plan(s)

Date	Title	Plan Action Status	Plan
12/15/1993	Recovery Plan for the Hawksbill Turtle in the U.S. Caribbean, Atlantic and Gulf of Mexico (http://ecos.fws.gov/docs/recovery_plan/931110.pdf)	View Implementation Progress (/roar/pub/planImplementationStatus.action?documentId=400426&entityId=153)	Final Revis
	Recovery Plan for U.S. Pacific Populations of	View Implementation Progress	Final

Five Year Review

Date	Title
08/23/2007	Hawksbill sea turtle 5-yr review (/docs/five_year_review/doc1079.pdf)

» Critical Habitat**Current Critical Habitat Documents (Showing 5 of 5)**

Date	Citation Page	Title	Document Type	Status
03/23/1999	64 FR 14051 14077	 (NOAA/NMFS) Endangered and Threatened Species; Regulations Consolidation; Final Rule (http://ecos.fws.gov/docs/federal_register/fr3606.pdf) 	Final Rule	Final designated
09/02/1998	63 FR 46693 46701	 Designated Critical Habitat; Green and Hawksbill Sea Turtles (http://ecos.fws.gov/docs/federal_register/fr3295.pdf) 	Final Rule	Not Required
06/24/1982	47 FR 27295 27298	 ETWP; Determination of Critical Habitat for Hawksbill Sea Turtle in Puerto Rico (http://ecos.fws.gov/docs/federal_register/fr599.pdf) 	Final Rule	Not Required
10/22/1980	45 FR 70198 70201	 ETWP; Proposed Determination of Critical Habitat for Hawksbill Sea Turtle in Puerto Rico (http://ecos.fws.gov/docs/federal_register/fr490.pdf) 	Proposed Rule	Not Required
05/24/1978	43 FR 22224 22225	 Proposed Determination of Critical Habitat for the Hawksbill Sea Turtle (http://ecos.fws.gov/docs/federal_register/fr219.pdf) 	Proposed Rule	Not Required

To learn more about critical habitat please see <http://criticalhabitat.fws.gov> (<http://criticalhabitat.fws.gov>)

» Conservation Plans

Habitat Conservation Plans (HCP) ([learn more \(/docs/conservation_plans/HCP_Incidental_Take.pdf\)](/docs/conservation_plans/HCP_Incidental_Take.pdf))

(Showing 5 of 7: [view all \(/speciesProfile/profile/displayAllDocuments!hcp.action?sPCODE=C00E\)](/speciesProfile/profile/displayAllDocuments!hcp.action?sPCODE=C00E))

HCP Plan Summaries
Culebra Northshore (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=826&region=4&type=HCP&rtype=1)
Indian River County Sea Turtle (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=893&region=4&type=HCP&rtype=1)
Palmas del Mar Resort (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=876&region=4&type=HCP&rtype=1)
Sage Development Amendment #1 (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=438&region=4&type=HCP&rtype=1)
St. Johns County Government (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=347&region=4&type=HCP&rtype=1)

» Petitions

» Life History

No Life History information has been entered into this system for this species.

» Other Resources

[NatureServe Explorer Species Reports \(javascript:\)](#) -- NatureServe Explorer is a source for authoritative conservation information on more than 50,000 plants, animals and ecological communities of the U.S and Canada. NatureServe Explorer provides in-depth information on rare and endangered species, but includes common plants and animals too. NatureServe Explorer is a product of NatureServe in collaboration with the Natural Heritage Network.

[ITIS Reports \(javascript:\)](#) -- ITIS (the Integrated Taxonomic Information System) is a source for authoritative taxonomic information on plants, animals, fungi, and microbes of North America and the world.

Last updated: November 3, 2010

[FWS Endangered Home \(http://www.fws.gov/endangered/\)](http://www.fws.gov/endangered/) | [ECOS Home \(/ecos/indexPublic.do\)](#) | [Contact Us \(/ecos/helpdesk.do?version=SPECIES_PROFILE-1_2_37\)](#)



Species Profile

Environmental Conservation Online System

(<http://www.fws.gov>)

Leatherback sea turtle (*Dermochelys coriacea*)

Kingdom: Animalia Class: Reptilia Order: Testudines Family: Dermochelyidae

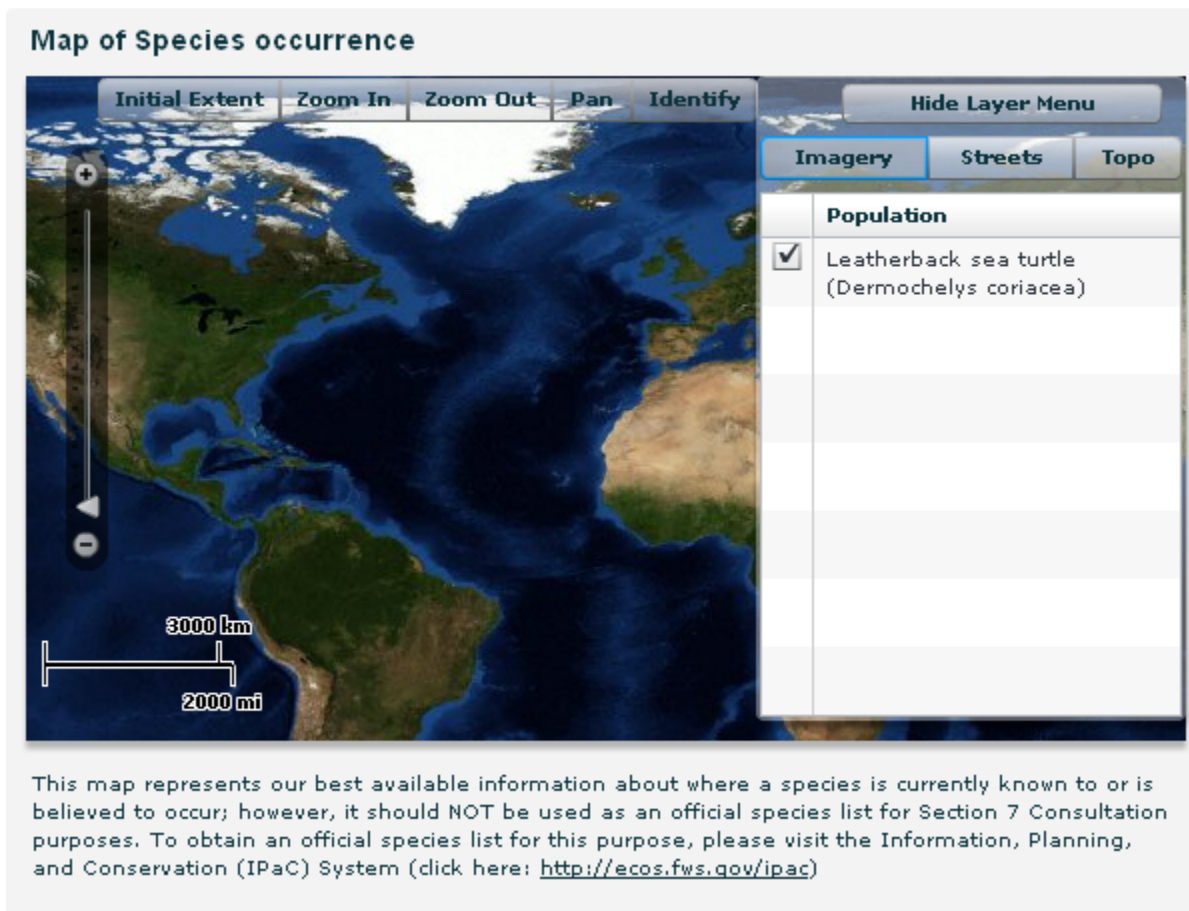
Listing Status: Endangered

Quick links: [Federal Register \(#status\)](#) [Recovery \(#recovery\)](#) [Critical Habitat \(#crithab\)](#) [Conservation Plans \(#conservationPlans\)](#) [Petitions \(#petitions\)](#) [Life History \(#lifeHistory\)](#) [Other Resources \(#other\)](#)

General Information

The leatherback is the largest, deepest diving, and most migratory and wide ranging of all sea turtles. The adult leatherback can reach 4 to 8 feet in length and 500 to 2000 pounds in weight. Its shell is composed of a mosaic of small bones covered by firm, rubbery skin with seven longitudinal ridges or keels. The skin is predominantly black with varying degrees of pale spotting; including a notable pink spot on the dorsal surface of the head in adults. A toothlike cusp is located on each side of the gray upper jaw; the lower jaw is hooked anteriorly. The paddle-like clawless limbs are black with white margins and pale spotting.

States/US Territories in which the Leatherback sea turtle is known to or is believed to occur: [Alabama \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Alabama\)](#) , [Alaska \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Alaska\)](#) , [American Samoa \(/speciesProfile/profile/countiesByState.action?entityId=154&state=American Samoa\)](#) , [California \(/speciesProfile/profile/countiesByState.action?entityId=154&state=California\)](#) , [Connecticut \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Connecticut\)](#) , [Delaware \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Delaware\)](#) , [Florida \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Florida\)](#) , [Georgia \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Georgia\)](#) , [Guam \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Guam\)](#) , [Hawaii \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Hawaii\)](#) , [Louisiana \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Louisiana\)](#) , [Maine \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Maine\)](#) , [Maryland \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Maryland\)](#) , [Massachusetts \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Massachusetts\)](#) , [Mississippi \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Mississippi\)](#) , [New Hampshire \(/speciesProfile/profile/countiesByState.action?entityId=154&state=New Hampshire\)](#) , [New Jersey \(/speciesProfile/profile/countiesByState.action?entityId=154&state=New Jersey\)](#) , [New York \(/speciesProfile/profile/countiesByState.action?entityId=154&state=New York\)](#)



[\(/speciesProfile/profile/countiesByState.action?entityId=154&state=North Carolina\)](/speciesProfile/profile/countiesByState.action?entityId=154&state=North Carolina) , [Northern Mariana Islands \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Northern Mariana Islands\)](/speciesProfile/profile/countiesByState.action?entityId=154&state=Northern Mariana Islands) , [Oregon \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Oregon\)](/speciesProfile/profile/countiesByState.action?entityId=154&state=Oregon) , [Puerto Rico \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Puerto Rico\)](/speciesProfile/profile/countiesByState.action?entityId=154&state=Puerto Rico) , [Rhode Island \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Rhode Island\)](/speciesProfile/profile/countiesByState.action?entityId=154&state=Rhode Island) , [South Carolina \(/speciesProfile/profile/countiesByState.action?entityId=154&state=South Carolina\)](/speciesProfile/profile/countiesByState.action?entityId=154&state=South Carolina) , [Texas \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Texas\)](/speciesProfile/profile/countiesByState.action?entityId=154&state=Texas) , [Virgin Islands \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Virgin Islands\)](/speciesProfile/profile/countiesByState.action?entityId=154&state=Virgin Islands) , [Virginia \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Virginia\)](/speciesProfile/profile/countiesByState.action?entityId=154&state=Virginia) , [Washington \(/speciesProfile/profile/countiesByState.action?entityId=154&state=Washington\)](/speciesProfile/profile/countiesByState.action?entityId=154&state=Washington)

US Counties in which the Leatherback sea turtle is known to or is believed to occur: [View All \(/speciesProfile/profile/countiesBySpecies.action?entityId=154\)](/speciesProfile/profile/countiesBySpecies.action?entityId=154)

USFWS Refuges in which the Leatherback sea turtle is known to occur: ARANSAS NATIONAL WILDLIFE REFUGE, ARCHIE CARR NATIONAL WILDLIFE REFUGE, BLACKBEARD ISLAND NATIONAL WILDLIFE REFUGE, BRETON NATIONAL WILDLIFE REFUGE, CAPE ROMAIN NATIONAL WILDLIFE REFUGE ... [Show All Refuges \(javascript:toggleRefuges\('on'\)\)](#)

Countries in which the the Leatherback sea turtle is known to occur: Albania, American Samoa, Angola, Antigua and Barbuda, Argentina, Aruba, Australia, Bahamas, Bahrain, Barbados, Benin, Brazil, British Virgin Islands, Canada, Cayman Islands, Chile, China, Colombia, Congo, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Eritrea, Fiji, French Guiana, Gabon, Ghana, Grenada, Guadeloupe, Guam, Guatemala, Guyana, Haiti, Honduras, India, Indonesia, Italy, Ivory Coast, Jamaica,

Guinea, Peru, Philippines, Portugal, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sao Tome and Principe, Senegal, Solomon Islands, South Africa, Sri Lanka, Suriname, Taiwan, Thailand, Togo, Trinidad and Tobago, Turks and Caicos Islands, U.S. Pacific Outlying Islands, U.S. Virgin Islands, United States, Vanuatu, Venezuela

For more information: <http://www.fws.gov/northflorida> (<http://www.fws.gov/northflorida>)

Current Listing Status Summary

Status	Date Listed	Lead Region	Where Listed
Endangered	06/02/1970	Southeast Region (Region 4) (http://www.fws.gov/southeast/)	

» Federal Register Documents

Most Recent Federal Register Documents (Showing 5 of 7: [view all \(/speciesProfile/profile/displayAllDocuments!fedreg.action?sPCODE=C00F\)](#))

Date	Citation Page	Title
03/23/1999	64 FR 14051 14077	(NOAA/NMFS) Endangered and Threatened Species; Regulations Consolidation; Final Rule (http://ecos.fws.gov/docs/federal_register/fr3606.pdf)
06/29/1987	52 FR 24244 24262	NOAA--Sea Turtle Conservation; Shrimp Trawling Requirements; 52 FR 24244 - 24262
03/23/1979	44 FR 17710 17712	Determination of Critical Habitat for the Leatherback Sea Turtle (http://ecos.fws.gov/docs/federal_register/fr271.pdf)
09/26/1978	43 FR 43688 43689	Determination of Critical Habitat for the Leatherback Sea Turtle (http://ecos.fws.gov/docs/federal_register/fr246.pdf)
03/23/1978	43 FR 12050 12051	Proposed Determination of Critical Habitat for the Leatherback Sea Turtle (http://ecos.fws.gov/docs/federal_register/fr190.pdf)

Most Recent Special Rule Publications (Showing 2 of 2)

Date	Citation Page	Title
03/23/1999	64 FR 14051 14077	(NOAA/NMFS) Endangered and Threatened Species; Regulations Consolidation; Final Rule (http://ecos.fws.gov/docs/federal_register/fr3606.pdf)
06/29/1987	52 FR 24244 24262	NOAA--Sea Turtle Conservation; Shrimp Trawling Requirements; 52 FR 24244 - 24262

» Recovery

[Recovery Plan Information Search \(/roar/pub/ConfigureRecActionReport.do?path=ROAR Custom Queries.Public Actions AdHoc\)](#)

- [Information Search FAQs \(http://www.fws.gov/endangered/recovery/ROAR_FAQs%2008-05-09_FINAL.pdf\)](http://www.fws.gov/endangered/recovery/ROAR_FAQs%2008-05-09_FINAL.pdf)

Current Recovery Plan(s)

Date	Title	Plan Action Status	Plan
01/12/1998	Recovery Plan for U.S. Pacific Populations of the Leatherback Turtle (http://ecos.fws.gov/docs/recovery_plan/981201d.pdf)	View Implementation Progress (/roar/pub/planImplementationStatus.action?documentId=400438&entityId=154)	Final Revis
04/06/1992	Recovery Plan for Leatherback Turtles in the U.S. Caribbean, Atlantic, and Gulf of Mexico (http://ecos.fws.gov/docs/recovery_plan/920406.pdf)	View Implementation Progress (/roar/pub/planImplementationStatus.action?documentId=400440&entityId=154)	Final Revis

Five Year Review

Date	Title
08/21/2007	Leatherback sea turtle 5-yr review (/docs/five_year_review/doc1076.pdf)

» Critical Habitat

Current Critical Habitat Documents (Showing 4 of 4)

Date	Citation Page	Title	Document Type	Status
03/23/1999	64 FR 14051 14077	(NOAA/NMFS) Endangered and Threatened Species; Regulations Consolidation; Final Rule (http://ecos.fws.gov/docs/federal_register/fr3606.pdf)	Final Rule	Final designated
03/23/1979	44 FR 17710 17712	Determination of Critical Habitat for the Leatherback Sea Turtle (http://ecos.fws.gov/docs/federal_register/fr271.pdf)	Final Rule	Not Required
09/26/1978	43 FR 43688 43689	Determination of Critical Habitat for the Leatherback Sea Turtle (http://ecos.fws.gov/docs/federal_register/fr246.pdf)	Final Rule	Not Required
03/23/1978	43 FR 12050 12051	Proposed Determination of Critical Habitat for the Leatherback Sea Turtle (http://ecos.fws.gov/docs/federal_register/fr190.pdf)	Proposed Rule	Not Required

To learn more about critical habitat please see <http://criticalhabitat.fws.gov> (<http://criticalhabitat.fws.gov>)

» Conservation Plans

Habitat Conservation Plans (HCP) ([learn more \(/docs/conservation_plans/HCP_Incidental_Take.pdf\)](/docs/conservation_plans/HCP_Incidental_Take.pdf))
(Showing 5 of 6: [view all \(/speciesProfile/profile/displayAllDocuments!hcp.action?scode=C00F\)](/speciesProfile/profile/displayAllDocuments!hcp.action?scode=C00F))

HCP Plan Summaries
Culebra Northshore (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=826&region=4&type=HCP&rtype=1)
Indian River County Sea Turtle (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=893&region=4&type=HCP&rtype=1)
Palmas del Mar Resort (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=876&region=4&type=HCP&rtype=1)
St. Johns County Government (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=347&region=4&type=HCP&rtype=1)

HCP Plan Summaries

Volusia Beaches (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=3191&region=4&type=HCP&rtype=1)

» Petitions

No petition findings have been published for the Leatherback sea turtle.

» Life History

No Life History information has been entered into this system for this species.

» Other Resources

[NatureServe Explorer Species Reports \(javascript:\)](#) -- NatureServe Explorer is a source for authoritative conservation information on more than 50,000 plants, animals and ecological communities of the U.S and Canada. NatureServe Explorer provides in-depth information on rare and endangered species, but includes common plants and animals too. NatureServe Explorer is a product of NatureServe in collaboration with the Natural Heritage Network.

[ITIS Reports \(javascript:\)](#) -- ITIS (the Integrated Taxonomic Information System) is a source for authoritative taxonomic information on plants, animals, fungi, and microbes of North America and the world.

Last updated: November 3, 2010

[FWS Endangered Home \(http://www.fws.gov/endangered/\)](http://www.fws.gov/endangered/) | [ECOS Home \(/ecos/indexPublic.do\)](#) | [Contact Us \(/ecos/helpdesk.do?version=SPECIES_PROFILE-1_2_37\)](#)



Species Profile

Environmental Conservation Online System

(<http://www.fws.gov>)

Loggerhead sea turtle (*Caretta caretta*)

Kingdom: Animalia Class: Reptilia Order: Testudines Family: Cheloniidae

Listing Status: Threatened ([and others listed below \(#CurListStatuses\)](#))

Quick links: [Federal Register \(#status\)](#) [Recovery \(#recovery\)](#) [Critical Habitat \(#crithab\)](#) [Conservation Plans \(#conservationPlans\)](#) [Petitions \(#petitions\)](#) [Life History \(#lifeHistory\)](#) [Other Resources \(#other\)](#)

General Information

Loggerheads were named for their relatively large heads, which support powerful jaws and enable them to feed on hard-shelled prey, such as whelks and conch. The carapace (top shell) is slightly heart-shaped and reddish-brown in adults and sub-adults, while the plastron (bottom shell) is generally a pale yellowish color. The neck and flippers are usually dull brown to reddish brown on top and medium to pale yellow on the sides and bottom. Mean straight carapace length of adults in the southeastern U.S. is approximately 36 in (92 cm); corresponding weight is about 250 lbs (113 kg).

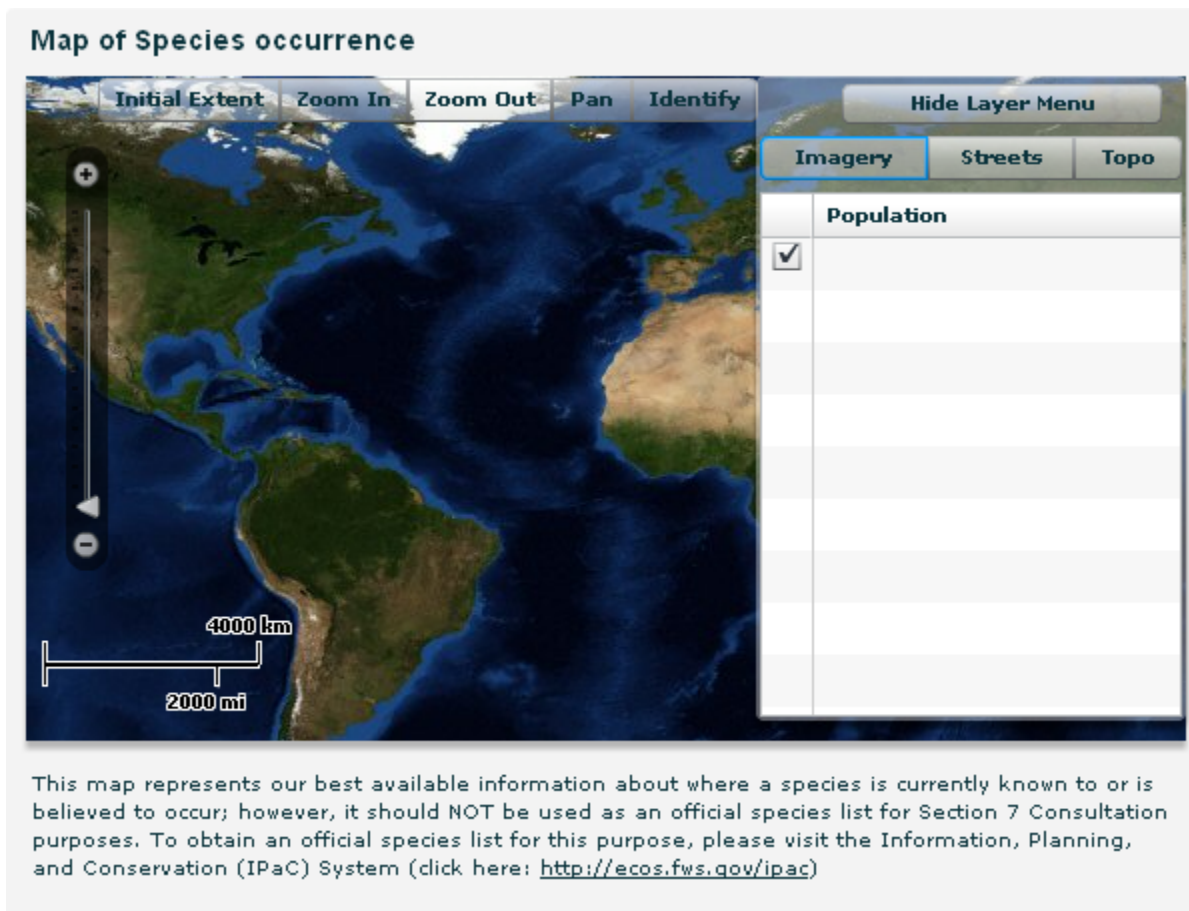
Population detail

The FWS is currently monitoring the following populations of the Loggerhead sea turtle

- **Population location:**

Listing status: Threatened

States/US Territories in which this population is known to or is believed to occur: [Alabama \(/speciesProfile/profile/countiesByState.action?entityId=159&state=Alabama\)](#) , [American Samoa \(/speciesProfile/profile/countiesByState.action?entityId=159&state=American Samoa\)](#) , [California \(/speciesProfile/profile/countiesByState.action?entityId=159&state=California\)](#) , [Connecticut \(/speciesProfile/profile/countiesByState.action?entityId=159&state=Connecticut\)](#) , [Delaware \(/speciesProfile/profile/countiesByState.action?entityId=159&state=Delaware\)](#) , [Florida \(/speciesProfile/profile/countiesByState.action?entityId=159&state=Florida\)](#) , [Georgia \(/speciesProfile/profile/countiesByState.action?entityId=159&state=Georgia\)](#) , [Guam \(/speciesProfile/profile/countiesByState.action?entityId=159&state=Guam\)](#) , [Hawaii \(/speciesProfile/profile/countiesByState.action?entityId=159&state=Hawaii\)](#) , [Louisiana \(/speciesProfile/profile/countiesByState.action?entityId=159&state=Louisiana\)](#) , [Maine \(/speciesProfile/profile/countiesByState.action?entityId=159&state=Maine\)](#) , [Maryland \(/speciesProfile/profile/countiesByState.action?entityId=159&state=Maryland\)](#) , [Massachusetts](#)



[\(/speciesProfile/profile/countiesByState.action?entityId=159&state=New Hampshire\)](/speciesProfile/profile/countiesByState.action?entityId=159&state=New Hampshire) , [New Jersey](#)
[\(/speciesProfile/profile/countiesByState.action?entityId=159&state=New Jersey\)](/speciesProfile/profile/countiesByState.action?entityId=159&state=New Jersey) , [New York](#)
[\(/speciesProfile/profile/countiesByState.action?entityId=159&state=New York\)](/speciesProfile/profile/countiesByState.action?entityId=159&state=New York) , [North Carolina](#)
[\(/speciesProfile/profile/countiesByState.action?entityId=159&state=North Carolina\)](/speciesProfile/profile/countiesByState.action?entityId=159&state=North Carolina) , [Northern Mariana Islands](#)
[\(/speciesProfile/profile/countiesByState.action?entityId=159&state=Northern Mariana Islands\)](/speciesProfile/profile/countiesByState.action?entityId=159&state=Northern Mariana Islands) , [Oregon](#)
[\(/speciesProfile/profile/countiesByState.action?entityId=159&state=Oregon\)](/speciesProfile/profile/countiesByState.action?entityId=159&state=Oregon) , [Puerto Rico](#)
[\(/speciesProfile/profile/countiesByState.action?entityId=159&state=Puerto Rico\)](/speciesProfile/profile/countiesByState.action?entityId=159&state=Puerto Rico) , [Rhode Island](#)
[\(/speciesProfile/profile/countiesByState.action?entityId=159&state=Rhode Island\)](/speciesProfile/profile/countiesByState.action?entityId=159&state=Rhode Island) , [South Carolina](#)
[\(/speciesProfile/profile/countiesByState.action?entityId=159&state=South Carolina\)](/speciesProfile/profile/countiesByState.action?entityId=159&state=South Carolina) , [Texas](#)
[\(/speciesProfile/profile/countiesByState.action?entityId=159&state=Texas\)](/speciesProfile/profile/countiesByState.action?entityId=159&state=Texas) , [Virgin Islands](#)
[\(/speciesProfile/profile/countiesByState.action?entityId=159&state=Virgin Islands\)](/speciesProfile/profile/countiesByState.action?entityId=159&state=Virgin Islands) , [Virginia](#)
[\(/speciesProfile/profile/countiesByState.action?entityId=159&state=Virginia\)](/speciesProfile/profile/countiesByState.action?entityId=159&state=Virginia)

US Counties in which this population is known to or is believed to occur: [View All](#)

[\(/speciesProfile/profile/countiesBySpecies.action?entityId=159\)](/speciesProfile/profile/countiesBySpecies.action?entityId=159)

USFWS Refuges in which this population is known to occur: ARANSAS NATIONAL WILDLIFE REFUGE, ARCHIE CARR NATIONAL WILDLIFE REFUGE, BACK BAY NATIONAL WILDLIFE REFUGE, BLACKBEARD ISLAND NATIONAL WILDLIFE REFUGE, BON SECOUR NATIONAL WILDLIFE REFUGE ... [Show All Refuges \(javascript:toggleRefuges\('on'\)\)](#)

Countries in which the this population is known to occur: Albania, Algeria, Angola, Australia, Bahamas, Bahrain, Bangladesh, Belize, Brazil, British Virgin Islands, Cape Verde, Cayman

Jamaica, Japan, Lebanon, Libya, Madagascar, Mexico, Montserrat, Morocco, Mozambique, Namibia, New Caledonia, Nicaragua, Northern Mariana Islands, Oman, Palau, Panama, Papua New Guinea, Philippines, Puerto Rico, Saint Lucia, Senegal, South Africa, Spain, Sri Lanka, Tunisia, Turkey, Turks and Caicos Islands, U.S. Pacific Outlying Islands, U.S. Virgin Islands, United States, Uruguay, Venezuela, Yemen

For more information: <http://www.fws.gov/northflorida> (<http://www.fws.gov/northflorida>)

- **Population location:** Western North Atlantic population
Listing status: Proposed Threatened
- **Population location:** North Pacific population
Listing status: Under Review

Current Listing Status Summary

Status	Date Listed	Lead Region	Where Listed
Threatened	07/28/1978	Southeast Region (Region 4) (http://www.fws.gov/southeast/)	
Proposed Threatened		Southeast Region (Region 4) (http://www.fws.gov/southeast/)	Western North Atlantic DPS
Under Review		Southeast Region (Region 4) (http://www.fws.gov/southeast/)	North Pacific DPS

» Federal Register Documents

Most Recent Federal Register Documents (Showing 5 of 17: [view all](#)
(</speciesProfile/profile/displayAllDocuments!fedreg.action?scode=C00U>))

Date	Citation Page	Title
06/02/2010	75 FR 30769	Proposed Listing of Nine Distinct Population Segments of Loggerhead Sea Turtles as Endangered or Threatened; Extension of Comment Period (http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2010_register&docid=fr02jn10-25)
03/16/2010	75 FR 12597 12656	Proposed Listing of Nine Distinct Population Segments of Loggerhead Sea Turtles as Endangered or Threatened (http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2010_register&docid=fr16mr10-19)
01/16/2009	74 FR 2995	Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea Turtle (http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2009_register&docid=fr16ja09-57)
05/30/2008	73 FR 31066 31067	Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea Turtle (http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2008_register&docid=fr30my08-29)
03/11/2008	73 FR 12941	90-day Finding for a Petition to Reclassify the Loggerhead Turtle in the Western North Atlantic Ocean (http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2008_register&docid=fr11mr08-27)

Most Recent Special Rule Publications (Showing 3 of 3)

Date	Citation Page	Title
03/23/1999	64 FR 14051 14077	(NOAA/NMFS) Endangered and Threatened Species; Regulations Consolidation; Final Rule (http://ecos.fws.gov/docs/federal_register/fr3606.pdf)
05/01/1980	45 FR 29054 29055	Threatened Fish and Wildlife; Green, Loggerhead, and Olive Ridley Sea Turtles
07/28/1978	43 FR 32800 32811	Listing and Protecting Loggerhead Sea Turtles as "Threatened Species" and Populations of Green and Olive Ridley Sea Turtles as Threatened Species or "Endangered Species" (http://ecos.fws.gov/docs/federal_register/fr231.pdf)

» Recovery

[Recovery Plan Information Search \(/roar/pub/ConfigureRecActionReport.do?path=ROAR Custom Queries.Public Actions AdHoc\)](#)

- [Information Search FAQs \(http://www.fws.gov/endangered/recovery/ROAR_FAQs%2008-05-09_FINAL.pdf\)](#)

Current Recovery Plan(s)

Date	Title	Plan Action Status	Plan
01/12/1998	Recovery Plan for U.S. Pacific Populations of the Loggerhead Turtle (http://ecos.fws.gov/docs/recovery_plan/981201b.pdf)	View Implementation Progress (/roar/pub/planImplementationStatus.action?documentId=400442&entityId=159)	Final Revis
01/16/2009	Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea Turtle (Caretta caretta); Second Revision (http://ecos.fws.gov/docs/recovery_plan/090116.pdf)	View Implementation Progress (/roar/pub/planImplementationStatus.action?documentId=1003509&entityId=159)	Final Revis

Other Recovery Documents (Showing 2 of 2)

Date	Citation Page	Title	Document Type
01/16/2009	74 FR 2995	Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea Turtle (http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2009_register&docid=fr16ja09-57)	• Notice Final Recovery Plan Availability
05/30/2008	73 FR 31066 31067	Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea Turtle (http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2008_register&docid=fr30my08-29)	• Notice Recovery Plan Avail.

Five Year Review

Date	Title
08/27/2007	Loggerhead sea turtle 5-yr review (/docs/five_year_review/doc1075.pdf)

» Critical Habitat

Current Critical Habitat Documents (Showing 2 of 2)

Date	Citation Page	Title	Document Type	Status
11/29/1978	43 FR 55806 55809	Proposed Determination of Critical Habitat for the for Kemp's Ridley and Loggerhead Sea Turtles	Proposed Rule	Not Required
10/04/1978	43 FR 45905 45909	Proposed Determination of Critical Habitat for Kemp's Ridley and Loggerhead Sea Turtles (http://ecos.fws.gov/docs/federal_register/fr252.pdf)	Proposed Rule	Not Required

To learn more about critical habitat please see <http://criticalhabitat.fws.gov> (<http://criticalhabitat.fws.gov>)

» Conservation Plans

Habitat Conservation Plans (HCP) ([learn more \(/docs/conservation_plans/HCP_Incidental_Take.pdf\)](http://ecos.fws.gov/docs/conservation_plans/HCP_Incidental_Take.pdf))
(Showing 5 of 14: [view all \(/speciesProfile/profile/displayAllDocuments!hcp.action?scode=C00U\)](http://speciesProfile/profile/displayAllDocuments!hcp.action?scode=C00U))

HCP Plan Summaries
Crum, Blaine & Linda (ABM) (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=3193&region=4&type=HCP&rtype=1)
D.F. Investments (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=3197&region=4&type=HCP&rtype=1)
FML81, LLC (Greg Miller) (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=1619&region=4&type=HCP&rtype=1)
FML81A, LLC (Greg Miller) (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=1618&region=4&type=HCP&rtype=1)
Indian River County Sea Turtle (http://ecos.fws.gov/conserv_plans/servlet/gov.doi.hcp.servlets.PlanReport?plan_id=893&region=4&type=HCP&rtype=1)

» Petitions

Most Recent Petition Findings (Showing 5 of 5)

Date	Citation Page	Title	Finding
03/16/2010	75 FR 12597 12656	Proposed Listing of Nine Distinct Population Segments of Loggerhead Sea Turtles as Endangered or Threatened (http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2010_register&docid=fr16mr10-19)	<ul style="list-style-type: none"> • Notice 12 month petition finding, Warranted • Proposed Listing, Endangered • Proposed Listing, Threatened
03/11/2008	73 FR 12941	90-day Finding for a Petition to Reclassify the Loggerhead Turtle in the Western North Atlantic Ocean (http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi)	<ul style="list-style-type: none"> • Notice 90-day Petition Finding, Substantial

Date	Citation Page	Title	Finding
03/05/2008	73 FR 11849 11851	90-day Finding for a Petition to Reclassify the Loggerhead Turtle in the Western North Atlantic Ocean • (http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2008_register&docid=fr05mr08-17)	Notice 90-day Petition Finding, Substantial
11/16/2007	72 FR 64585 64587	90-day Finding for a Petition to Reclassify the Loggerhead Turtle in the North Pacific Ocean as a Distinct Population Segment with Endangered Status and to Designate Critical Habitat • (http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2007_register&docid=fr16no07-37)	Notice 90-day Petition Finding, Substantial
09/15/2003	68 FR 53947 53955	Endangered and Threatened Wildlife and Plants; 12-month Finding on a Petition to List the Northern and Florida Panhandle Loggerhead Sea Turtle (<i>Caretta caretta</i>) Subpopulations as Endangered • (http://ecos.fws.gov/docs/federal_register/fr4186.pdf)	Notice 12 month petition finding, Not warranted

» Life History

No Life History information has been entered into this system for this species.

» Other Resources

[NatureServe Explorer Species Reports \(javascript:\)](#) -- NatureServe Explorer is a source for authoritative conservation information on more than 50,000 plants, animals and ecological communities of the U.S and Canada. NatureServe Explorer provides in-depth information on rare and endangered species, but includes common plants and animals too. NatureServe Explorer is a product of NatureServe in collaboration with the Natural Heritage Network.

[ITIS Reports \(javascript:\)](#) -- ITIS (the Integrated Taxonomic Information System) is a source for authoritative taxonomic information on plants, animals, fungi, and microbes of North America and the world.

Last updated: November 3, 2010

[FWS Endangered Home \(http://www.fws.gov/endangered/\)](http://www.fws.gov/endangered/) | [ECOS Home \(/ecos/indexPublic.do\)](http://ecos/indexPublic.do) | [Contact Us \(/ecos/helpdesk.do?version=SPECIES_PROFILE-1_2_37\)](#)



Species Profile

Environmental Conservation Online System

<http://www.fws.gov>

Small Whorled pogonia (Isotria medeoloides)

Kingdom: Plantae Class: Liliopsida Order: Orchidales Family: Orchidaceae

Listing Status: Threatened

Quick links: [Federal Register \(#status\)](#) [Recovery \(#recovery\)](#) [Critical Habitat \(#crithab\)](#) [Conservation Plans \(#conservationPlans\)](#) [Petitions \(#petitions\)](#) [Life History \(#lifeHistory\)](#) [Other Resources \(#other\)](#)

Loading

States/US Territories in which the Small Whorled pogonia is known to or is believed to occur:

[Connecticut \(/speciesProfile/profile/countiesByState.action?entityId=742&state=Connecticut\)](#) , [Delaware \(/speciesProfile/profile/countiesByState.action?entityId=742&state=Delaware\)](#) , [Georgia \(/speciesProfile/profile/countiesByState.action?entityId=742&state=Georgia\)](#) , [Illinois \(/speciesProfile/profile/countiesByState.action?entityId=742&state=Illinois\)](#)

[\(/speciesProfile/profile/countiesByState.action?entityId=742&state=Maine\)](/speciesProfile/profile/countiesByState.action?entityId=742&state=Maine) , [Massachusetts](#)
[\(/speciesProfile/profile/countiesByState.action?entityId=742&state=Massachusetts\)](/speciesProfile/profile/countiesByState.action?entityId=742&state=Massachusetts) , [Michigan](#)
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[\(/speciesProfile/profile/countiesByState.action?entityId=742&state=Virginia\)](/speciesProfile/profile/countiesByState.action?entityId=742&state=Virginia) , [West Virginia](#)
[\(/speciesProfile/profile/countiesByState.action?entityId=742&state=West Virginia\)](/speciesProfile/profile/countiesByState.action?entityId=742&state=West Virginia)

US Counties in which the Small Whorled pogonia is known to or is believed to occur: [View All](#)

[\(/speciesProfile/profile/countiesBySpecies.action?entityId=742\)](/speciesProfile/profile/countiesBySpecies.action?entityId=742)

Countries in which the the Small Whorled pogonia is known to occur: Canada

Current Listing Status Summary

Status	Date Listed	Lead Region	Where Listed
Threatened	09/09/1982	Northeast Region (Region 5) (http://www.fws.gov/northeast/)	

» Federal Register Documents

Most Recent Federal Register Documents (Showing 5 of 5)

Date	Citation Page	Title
01/29/2007	72 FR 4018 4019	Initiation of a 5-Year Review of Ten Listed Northeastern Species (http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2007_register&docid=fr29ja07-49)
10/06/1994	59 FR 50852 50857	ETWP: Final Rule to Reclassify the Plant Isotria medeoloides (Small Whorled Pogonia) From Endangered to Threatened (http://ecos.fws.gov/docs/federal_register/fr2715.pdf)
10/19/1993	58 FR 53904 53909	ETWP: Proposed Rule To Reclassify the Plant Isotria Medeoloides (Small Whorled Pogonia) From Endangered to Threatened (http://ecos.fws.gov/docs/federal_register/fr2445.pdf)
09/09/1982	47 FR 39827 39831	ETWP: Determination of Isotria medeoloides (small whorled pogonia) To Be an Ednangered Species (http://ecos.fws.gov/docs/federal_register/fr621.pdf)
09/11/1980	45 FR 59909 59914	Proposal to Determine Isotria meleoloides (Small Whorled Pogonia) to be an Endangered Species (http://ecos.fws.gov/docs/federal_register/fr471.pdf)

» **Recovery**

[Recovery Plan Information Search \(/roar/pub/ConfigureRecActionReport.do?path=ROAR Custom Queries.Public Actions AdHoc\)](/roar/pub/ConfigureRecActionReport.do?path=ROAR Custom Queries.Public Actions AdHoc)

- [Information Search FAQs \(http://www.fws.gov/endangered/recovery/ROAR_FAQs%2008-05-09_FINAL.pdf\)](http://www.fws.gov/endangered/recovery/ROAR_FAQs%2008-05-09_FINAL.pdf)

Current Recovery Plan(s)

Date	Title	Plan Action Status	Plan
11/13/1992	Small Whorled Pogonia (http://ecos.fws.gov/docs/recovery_plan/921113b.pdf)	View Implementation Progress (/roar/pub/planImplementationStatus.action?documentId=600315&entityId=742)	Final Review

Other Recovery Documents (Showing 1 of 1)

Date	Citation Page	Title	Document Type
01/29/2007	72 FR 4018 4019	Initiation of a 5-Year Review of Ten Listed Northeastern Species (http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2007_register&docid=fr29ja07-49)	• Notice 5-year Review, Initiation

Five Year Review

Date	Title
10/16/2008	Small Whorled Pogonia Completed 5 Year Review (/docs/five_year_review/doc2002.pdf)

» **Critical Habitat**

No critical habitat rules have been published for the Small Whorled pogonia.

» **Conservation Plans**

No conservation plans have been created for Small Whorled pogonia

» **Petitions**

No petition findings have been published for the Small Whorled pogonia.

» **Life History**

No Life History information has been entered into this system for this species.

» **Other Resources**

[NatureServe Explorer Species Reports \(javascript:\)](#) -- NatureServe Explorer is a source for authoritative conservation information on more than 50,000 plants, animals and ecological communities of the U.S and Canada. NatureServe Explorer provides in-depth information on rare and endangered species, but includes common plants and animals too. NatureServe Explorer is a product of NatureServe in collaboration with the Natural Heritage Network.

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Last updated: November 3, 2010

[FWS Endangered Home \(http://www.fws.gov/endangered/\)](http://www.fws.gov/endangered/) | [ECOS Home \(/ecos/indexPublic.do\)](/ecos/indexPublic.do) | [Contact Us \(/ecos/helpdesk.do?version=SPECIES_PROFILE-1_2_37\)](#)