

MONROE COUNTY

NORTHEAST PENNSYLVANIA

FISH AND WILDLIFE ANNEX

TO THE EPA

REGION III INLAND AREA

CONTINGENCY PLAN

September 13, 2002

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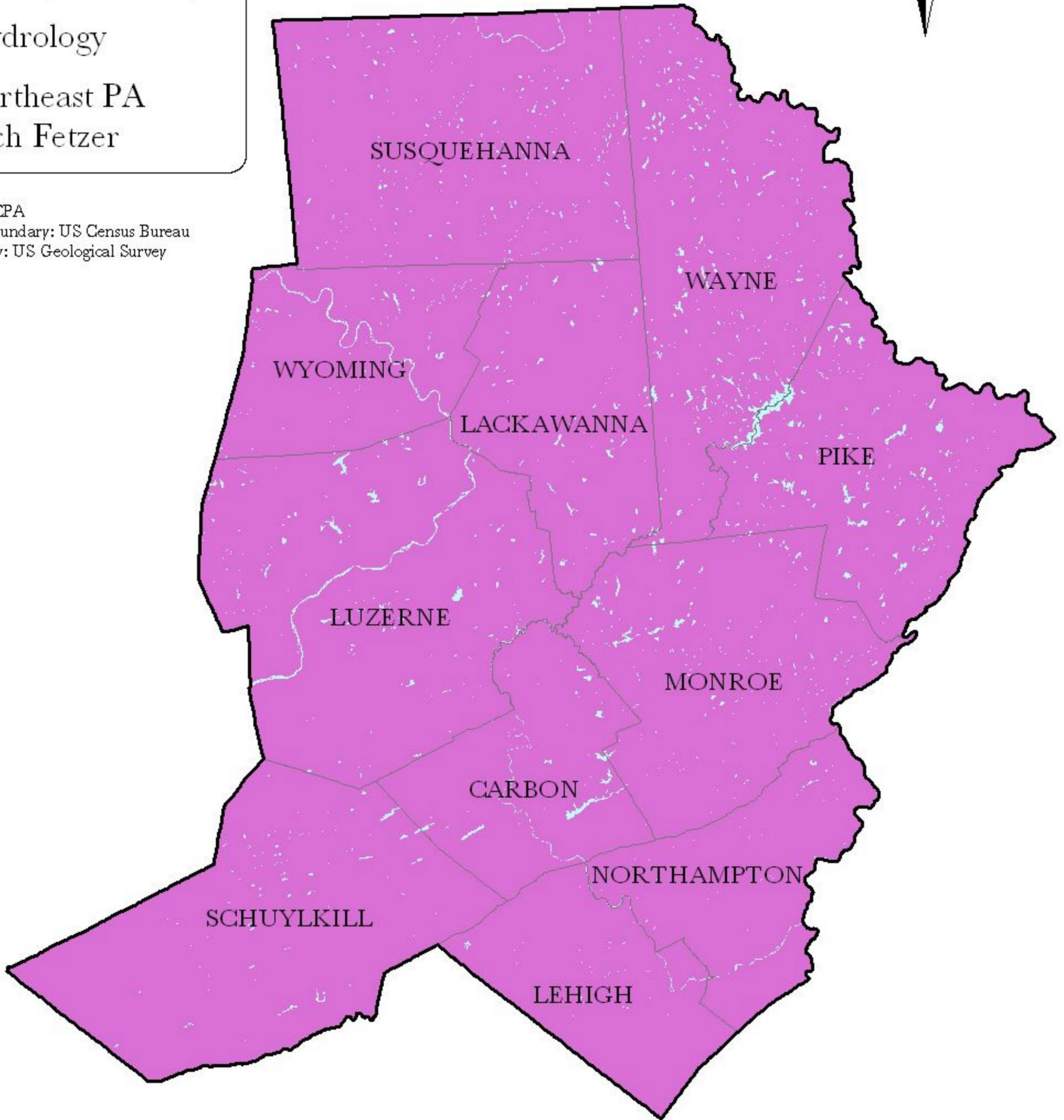


Northeast PA IACP Sub Area



-  County Boundary
-  Hydrology
-  Northeast PA
Rich Fetzer

Source: IACP: US EPA
County Boundary: US Census Bureau
Hydrology: US Geological Survey



0 10 20 30 40 50 Miles



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I. GEOGRAPHIC DESCRIPTION

A. Participants in the Northeast Pennsylvania Sub-Area

Eleven counties in Northeast Pennsylvania have joined together to form the Northeast Pennsylvania sub-area. The Northeast Regional Office of the Pennsylvania Department of Environmental Protection (PADEP) is responsible for this sub-area, which is also a portion of Environmental Protection Agency (EPA) Region III. The counties included in this sub-area are as follows:

- Carbon
- Lehigh
- Monroe
- Pike
- Susquehanna
- Wyoming
- Lackawanna
- Luzerne
- Northampton
- Schuylkill
- Wayne

These counties have joined together because they share physical and environmental concerns. The Delaware and Susquehanna Rivers serve as economic resources for the sub-area. Many recreational and historic areas are found in this sub-area, including the Pocono Mountains, the Appalachian Trail, and numerous state and forest lands.

B. Sensitive Areas

Sensitive areas are areas that have been designated for protection in the event of an oil spill or a release of a hazardous substance. In each county of the sub-area, sensitive areas have been identified for protection based on either their economic or recreational importance. Sensitive areas also include biological, natural, and cultural resources that are protected by state and federal laws. Economically sensitive areas include water-dependent recreational areas, commercial areas, historical areas and cultural areas. Environmentally sensitive areas include flora and fauna habitats, land management areas, national and state parks, state forests, wildlife management areas, and biological resource areas. The sensitive areas in each county are listed in Section V, Part A, of this Plan.

II. NOTIFICATIONS AND CONTACT LISTS

A. Natural Resource Trustees

1. Federal Trustees

Federal trustees are federal officials designated by the President of the United States to act on behalf of the public for the protection of natural resources. The designated federal trustees for the geographical area covered in this Plan, and their contact information are presented in Table 1.

Table 1. Federal Trustee Contact Information

Agency	Jurisdiction	Contact Name	Telephone Number
Department of Commerce	Pennsylvania	Mr. Peter Knight	(215) 597-3636
Department of Defense	U.S. Army Fort Meade, MD	No Designated Contact	(301) 677-4805 (301) 677-4287 (24-hour)
Department of Defense	U.S. Navy	On-Scene Coordinator (OSC) Ms. Maureen Connors	(757) 322-2609 (24-hour) (757) 322-3064 (888) 958-4322
Department of Defense	U.S. Army Corp of Engineers	No Designated Contact	(212) 264-7091 (24-hour)
Department of the Interior	Pennsylvania	Mr. Mike Chezik	(215) 597-5378 (800) 259-8352 PIN 1168849 (24-hour)
U.S. Fish and Wildlife Service	Pennsylvania	Mr. Tim Fannin	(413) 253-8646 (413) 539-3194 (cell)
Agency for Toxic Substances and Disease Registry (ATSDR)	Pennsylvania	No Designated Contact	(404) 639-0615
Department of Commerce National Oceanic and Atmospheric Administration (NOAA)	Pennsylvania	Commander Wade J. Blake (Primary) and Captain Roger Parsons	(202) 267-1321 (301) 713-2989
Federal Emergency Management Agency (FEMA)	Pennsylvania	No Designated Contact	(215) 931-5578

Table 1. Federal Trustee Contact Information (Continued)

Agency	Jurisdiction	Contact Name	Telephone Number
Marine Safety Office (MSO)	Pennsylvania	No Designated Contact	(215) 271-4800 (Philadelphia) (412) 644-5808 (Pittsburgh)
Supervisor of Salvage and Diving (SUPSALV)	Worldwide	SUPSALV	(701) 695-0231 (mobilization) (202) 781-3889 (emergency.)
Chemical Transportation Emergency Center (CHEMTREC)	Pennsylvania	No Designated Contact	(800) 424-9300 (24-hour)
Tri-State Bird Rescue & Research, Inc.	Pennsylvania	Ms. Eilleen Miller	(302) 737-7241 (24-hour)

Note: The agencies listed are contacted when the Regional Response Center (RRC) receives a report of a spill or release. The RRC also contacts the National Response Center (NRC). If responders report the spill or release to the NRC, these notifications will be made.

2. Commonwealth of Pennsylvania Trustees

Commonwealth trustees are designated by the governor to act on behalf of the public for the protection of the commonwealth natural resources. The designated trustee for the geographical area covered in this Plan, and his contact information is presented in Table 2.

Table 2. Commonwealth of Pennsylvania Trustee Contact Information

Trustee Name and Title	Department	Address	Telephone
David E. Hess Secretary	PADEP	P.O. Box 2063 Harrisburg, PA 17105-2063	(717) 787-2814

3. Statutory Notifications

Commonwealth of Pennsylvania

NRC

(800) 424-8802

EPA Region III Response Center

(215) 814-9016

PADEP

Mr. Charlie High (800) 541-2050
(24-hour)

PADEP Northeast Regional Office

Mr. William McDonnell, Regional Director (570) 826-2340
Mr. David Lamereaux, Assistant. Regional Director (570) 826-2511

Pennsylvania Emergency Management Agency (PEMA) Eastern Area

Mr. Anthony Camillocci (610) 562-3003

Pennsylvania State Police (Bureau of Emergency and Special Operations)

Major Richard S. Zenk (717) 787-4600

Pennsylvania Department of Transportation (District Engineer)

District 4-0, Dunmore: Mr. Charles Mattei (570) 963-4010
District 5-0, Allentown: Mr. Walter Bortree (610) 798-4110

Pennsylvania State Fire Commissioner

Mr. Ed Mann (800) 670-3473

Pennsylvania Department of Agriculture

Mr. Russell Gunton Region III (570) 836-2181
Mr. Frank Stearns Region VI: (610) 489-1003

Northeastern Pennsylvania Alliance

Mr. Cameron Moore, President and Chief Executive Officer (CEO)
(570) 655-5581

Pennsylvania Boroughs Association

Mr. Thomas Klaum, Director (717) 236-9526

Association of Township Supervisors

Mr. Keith Hite, Executive Director (717) 763-0930
Mr. Ken Greider, Consultant

Pennsylvania League of Cities

Mr. John Garner, Director (717) 232-6540

Pennsylvania Association of 1st Class Townships (Township Commissioners)

Mr. John Garner, Director (717) 232-6540

4. Federal Notifications

An oil discharge or hazardous substance release must be immediately reported to the **NRC at (800) 424-8802.**

B. Emergency Contact in the Commonwealth of Pennsylvania

The PADEP emergency response contact for the sub-area is **Leonard Insalaco at (570) 826-2511 (24-hour)**.

C. Support Agencies

1. U.S. Coast Guard

The U.S. Coast Guard (USCG) is the agency primarily responsible for addressing spills in navigable waters of the United States. For the northeast Pennsylvania sub-area, USCG assistance will be provided primarily by the USCG Atlantic Strike Team. The Atlantic Strike Team can be contacted at **(609) 724-0008** or through the **NRC at (800) 424-8802**.

2. Agency for Toxic Substances and Disease Registry

ATSDR responsibilities include maintaining appropriate disease and exposure registries, providing medical care and testing of individuals during public health emergencies, informing the public of effects of toxic substances, maintaining a list of restricted or closed areas that are contaminated, conducting research, examining the relationships between exposure and illness, and conducting health assessments at contaminated sites. ATSDR can be particularly helpful if an incident involves a biological contaminant rather than oil or a hazardous substance. ATSDR is located in Atlanta, Georgia, and may be contacted at **(404) 639-0615 (24-hour)**.

3. Navy Superintendent of Salvage

SUPSALV is a primary federal resource for marine salvage operations. SUPSALV is located at Cheatham Annex outside Williamsburg, Virginia, and maintains an inventory of pollution control and cleanup equipment. In the event of a major spill, SUPSALV can provide pollution response equipment within approximately 14 hours. The SUPSALV pollution response equipment, complete with operators and maintenance support, is available to federal (OSCs) on a cost-reimbursable basis. Either a responsible party or an OSC can fund SUPSALV operations.

SUPSALV can be contacted as follows:

- a. In an emergency contact the Navy Sea Systems Command (NAVSEA), which will in-turn contact key SUPSALV personnel. Call **(202) 781-3889 (24-hour)**.
- b. To make an official request for mobilization and response, call **(703) 695-0231 (24-hour)**.

D. Support Agency Contacts

<u>Department of Health and Human Resources</u> ATSDR	(404) 498-0120
<u>CHEMTREC</u>	(800) 424-9300
<u>Department of the Interior (DOI)</u> Office of Environmental Affairs Mr. Michael Chezik	(215) 597-5378
<u>USFWS</u> Mr. David Robinson	(413) 253-8613
<u>Department of Commerce</u> NOAA Coastal Resource Coordinators for Region III Mr. Peter Knight	(215) 814-3321 (206) 617-5440 (cell)
Mr. Simeon Hahn	(215) 814-5419 (206) 617-5438 (cell)
<u>NOAA Hazardous Materials (HAZMAT) Liaisons</u> Commander Wade Blake, USCG-NOAA Office of Response and Restoration (OR&R)	(202) 267-1321
Dr. Michael Heeb, Chief, HAZMAT Division	(206) 526-6323
<u>HAZMAT Duty Officer</u>	(206) 526-4911
<u>NOAA Scientific Support Coordinator for New York and Philadelphia</u> Mr. Ed Levine	(206) 526-6317 (212) 668-6428
<u>FEMA</u>	(800) 621-3362 (215) 931-5608 (24-hour)
<u>PEMA</u> Mr. David Smith, Director	(800) 424-7362
<u>MSO</u> Philadelphia Pittsburgh	(215) 271-4800 (412) 644-5808
<u>Tri-State Bird Rescue & Research, Inc.</u> Eilleen Gilbert	(302) 737-7241 (800) 710-0695 (0696) (24-hour)

III. RESPONSE RESOURCES CAPABILITIES

A. Hazardous Material Response Teams

The HAZMAT Response team for Monroe County for the sub-area is identified below.

Teem Environmental Services, Inc.
117 South Main Street
Old Forge, Pennsylvania
(800) 890-7745 or (717) 457-1153

B. Assigned Response Contractors

Table 3 identifies the response contractors assigned to the counties in the sub-area.

Table 3. Assigned Response Contractors

County	Assigned Contractor
Carbon	Teem Environmental Services, Inc.
Lackawanna	Teem Environmental Services, Inc. and DATOM Environmental Products
Lehigh	Lehigh County HAZMAT Response Team
Luzerne	Teem Environmental Services, Inc. and DATOM Environmental Products
Monroe	Teem Environmental Services, Inc.
Northampton	Teem Environmental Services, Inc. and Lehigh County HAZMAT Response
Pike	Teem Environmental Services, Inc.
Schuylkill	DATOM Environmental Products
Susquehanna	Teem Environmental Services, Inc.
Wayne	DATOM Environmental Products
Wyoming	Teem Environmental Services, Inc.

C. Qualified Response Contractors

Neither EPA nor PADEP recommends any one response contractor. The responsible party should select the contractor with the best response capabilities available for the cleanup of the oil or chemical involved in an incident.

Designated oil spill response organization (OSRO) contractors must have a specified amount of equipment on reserve that can be used to respond to an oil spill, within a limited time. OSRO contractors are approved by the USCG. Table 4 identifies OSRO contractors for the sub-area.

Table 4. OSRO Response Contractors

Company Name / OSRO	Point of Contact	Phone Number	Location
Clean Harbor Co-Op	No designated contact	(908) 225-2300	Elizabeth, New Jersey
Clean Venture, Inc. (OSRO-46)	Jo Kennley	(609) 467-4488	Swedesboro, New Jersey
Contractors Oil Spill Resource Organization	No designated contact	(203) 782-0780	New Haven, Connecticut
DATOM Products HAZMAT Response Team	Mr. Thomas Jimmie	(570) 343-2878	Dunmore, Pennsylvania
DonJon Environmental Marine Services (OSRO-124)	Mr. Bob Umbdenstock	(908) 686-1199	Hillside, New Jersey
Emergency Environmental Services, Inc.	No designated contact	(914) 948-8076	Ossining, New York
Environmental Products and Services, Inc. (OSRO-54)	Jeff Spangler	(717) 564-4200	Harrisburg, Pennsylvania
Heritage Environmental, Inc.	No designated contact	(630) 378-1600	Oak Brook, Illinois
HMHTTC Response, Inc.	Rick Nazay	(717) 240-0791	Carlisle, Pennsylvania
Industrial Marine Services, Inc.	No designated contact	(757) 543-5718	Norfolk, Virginia
Ken's Marine Service	No designated contact	(201) 339-0673	Jersey City, New Jersey
Kleen Resources	No designated contact	(518) 462-0400	Albany, New York

Table 4. OSRO Response Contractors (Continued)

Company Name / OSRO	Point of Contact	Phone Number	Location
Miller Environmental Group (OSRO-20)	Jim Fox	(609) 224-1100	Paulsboro, New Jersey
Marine Spill Response Corporation (MSRC)	No designated contact	(202) 408-5700	District of Columbia
OHM Corporation (OSRO-69)	Gary Gardner	(610) 584-8900	Trenton, NJ
S + D Environmental Services (OSRO-91)	Scott Anderson	(609) 853-1196	Westville, NJ
Teem Environmental Services, Inc. Services, Inc.	David Fife or Robert Lintott	(717) 457-1153	Old Forge, PA
Trade Winds Environmental Resources., Inc.	No designated contact	(516) 755-4000	Long Island, New York

IV. FISH AND WILDLIFE RESPONSE

This section focuses primarily on avian species, because they are the species most impacted by spills, especially those involving oil. In addition, limited information is available on protection of other groups of animals. Some of the techniques used for protecting avian species can be modified for application to mammals, reptiles, and amphibians.

A. U.S. Fish and Wildlife Service

USFWS has responsibility for managing and protecting migratory birds under the authority of the Migratory Bird Treaty Act (MBTA). USFWS's management goals for migratory birds include the following objectives (USFWS, 2000):

- Conduct surveys, inventories, and studies to monitor populations of migratory birds.
- Coordinate regional, non-game, migratory bird activities within the USFWS and with local, state, federal, and private organizations.
- Identify threats to migratory birds and conduct studies to determine mitigation measures for alleviating the adverse impacts of threats.
- Handling of migratory birds requires USFWS approval and oversight during secondary and tertiary response activities.

B. Current Bird Populations

Four groups of migratory birds are addressed below. Additional terrestrial migratory birds, such as passerines, are also of concern to USFWS; however, information on response strategies for these species is currently unavailable. Such information will be incorporated into this Plan as the information becomes available.

Waterfowl such as geese, swans, and ducks use shorelines and bays, and commonly occur inland during the breeding season.

Shorebirds such as sandpipers typically occupy tidal mudflats and rocks; however, they may occur in inland areas during the breeding and migration periods.

Dividing birds such as loons and grebes use near-shore waters and commonly occur inland during the breeding season.

Raptors such as bald eagles and peregrine falcons prey on a variety of avian species and may ingest oil through the food chain. Raptors commonly occur inland.

The susceptibility of migratory birds to oil spills depends on many biological and environmental factors. Migratory birds that are gregarious, spend a lot of time on the water surface, dive when disturbed, and have low reproductive rates are particularly vulnerable to oil spills. In addition, species with small populations or a restricted geographic range, as well as threatened and endangered species may be more susceptible to oil spill contamination.

A bird's feathers overlap to trap air and provide the bird with warmth and buoyancy. Birds that contact an oil slicking, may experience external oiling of plumage and a subsequent loss of waterproofing; ingest oil, or suffer long-term reproductive effects. Primary effects of oil contamination include: (1) hypothermia resulting from loss of the insulation capability of feathers, (2) dehydration resulting from lack of uncontaminated water, (3) gastro-intestinal disorders and hemolytic anemia resulting from ingestion of oil, (4) pneumonia resulting from inhalation of volatile oil vapors, (5) skin and corneal irritation from direct contact with oil, and (6) reproductive impairment. Secondary effects associated with bird capture and treatment operations include various infectious diseases, pododermatitis, joint swellings, and keel lesions. In addition, eggs contaminated with oil during incubation may result in high mortality of embryos.

C. OSHA Requirements

Two Occupational Safety Health Administration (OSHA) regulations address most of the occupational health and safety issues encountered during wildlife rescue and rehabilitation:

- a. The OSHA standard for hazardous waste operations and emergency response (HAZWOPER) (29 *Code of Federal Regulations* (CFR) 1910.120) applies to organizations or individuals involved directly in the retrieval or cleanup efforts. In addition, each state may have its own worker safety requirements. Coordination with the appropriate state agency should be conducted to ensure that such requirements are met.
- b. The Hazard Communication Standard (29 CFR 1910.1200), also known as the "Right-to-Know Law" or "HazCom," requires that all chemicals in a workplace be fully evaluated for possible physical or health hazards and that all information related to such hazards be made available to all workers. HazCom applies to wildlife rehabilitation organizations because petroleum is considered to be hazardous to human health.

Relevant training offered by EPA through its Environmental Response Training Program in Cincinnati, Ohio, and Edison, New Jersey, includes the following:

- a. Hazardous Materials Incident Response Operations (EPA 165.5) (40-hours). This course meets OSHA's requirement (29 CFR 1910.120) for a minimum of 40 hours of classroom safety training for hazardous waste site workers.
- b. Emergency Response to Hazardous Materials Incidents (EPA 165.15) (40-hours). This course meets and exceeds OSHA's requirement (29 CFR 1910.120, paragraph q) for a minimum of 24 hours of training for a hazardous materials technician.

Wildlife rehabilitation organizations are legally required to educate and protect all workers, including volunteers, in accordance with OSHA standards. Individuals working with oiled animals must receive information concerning all potential hazards associated with the handling of these animals. The following requirements should be applied to wildlife rescue and rehabilitation workers:

Wildlife rescue and rehabilitation management personnel: This is the core team of rehabilitators who direct operations. These people must have 24 hours of classroom training in hazardous waste operations and emergency response.

Rehabilitation facility volunteers: These volunteers work under the direction of the management team. Persons in this category must receive 4 hours of training at the HAZWOPER awareness level or have sufficient equivalent training or proven experience in specific competencies before they can begin work. Additional training is necessary before the volunteers are allowed on scene.

Retrieval volunteers: These volunteers work under the direction of the search and rescue management team and are allowed on scene but not in the “hot zone.” Retrieval volunteers must receive between 4 and 8 hours of HAZWOPER Awareness training and site safety training before they can begin work.

V. PROTECTION STRATEGIES

To protect and prevent further damage to sensitive areas during a spill incident, protection strategies and countermeasures should be used. In the northeast Pennsylvania sub-area, the primary sensitive areas are the Delaware and Susquehanna Rivers, inland waterways, recreational areas, streams, fisheries, endangered and threatened plants, animals, and their supporting habitats, and drinking water intakes. For incidents that require aggressive protection of fisheries and wildlife, refer to the *Fish and Wildlife Annex to the U.S. EPA Region III Inland Area Contingency Plan*, prepared by USFWS Region V,(2000).

For incidents that require care and rehabilitation of oiled birds, or establishment of protocols for keeping unoiled birds away from a spill, refer to the *Best Practices for Migratory Bird Care During an Oil Spill*, prepared by the USFWS, (2002).

General protection strategies include diversion booms along sensitive areas to minimize impacts, removal of spilled material if this can be done without disrupting sediments, and use of sorbent pads to soak up spilled material. Drinking water intakes should be protected before they are impacted or should be turned off. Surface water intakes should be protected with diversion booms to deflect spilled material away from the intake; double-booming is recommended where possible.

For more information about water intake monitoring, refer to the *Selection Guide for Oil Spill Applied Technologies*, at www.seaconsulting.com or at the Regional Response Team (RRT) III Regional Contingency Plan website, www.uscg.mil/lantarea/rrt/rcp/Index.htm.

A. Sensitive Areas

Presented below are shoreline classifications, their descriptions, oil impact predictions, and response activity recommendations that are relevant to the Northeast Pennsylvania sub-area.

Vegetated Riverbanks

Description

- Vegetated riverbanks are composed of low banks with grasses that subject to flooding or steeper banks with trees extending to the water’s edge.
- They are found in fresh or brackish water localities.
- They contain a variety of plant species.

Predicted Oil Impact

- Light oil concentrations will coat the outer fringes of the area.
- Heavy oil concentrations will penetrate the area and heavily coat the plants present.
- The biological impact may be severe if oil concentrations are heavy.
- The oil may persist for several months if it is not cleaned up.
- During winter, shore-fast ice could prevent or limit the oils impact.
- The odor and taste of freshwater supplies could be impacted by trace oil contamination.

Recommended Response Activities

- The cleanup should proceed cautiously.
- Under light oil coatings, a cleanup is probably unnecessary; under heavy accumulations, oil on the sediment surface could be removed to allow new growth.
- Low-pressure spraying may aid oil removal.
- Any plant cutting should be closely supervised.

Freshwater Marshes and Swamps

Description

- Marshes are characterized by soft-bodied, nonpersistent, herbaceous vegetation such as grasses.
- Swamps have dense stands of water-tolerant shrubs and trees.
- These areas have an extremely high degree of species diversity and abundant flora and fauna.
- Such areas may harbor rare, threatened, or endangered species.
- Marshes and swamps are extremely valuable as breeding and nursery areas for wetland-dependent amphibians and reptiles as well as fish, birds, and mammals.
- The sediments generally consist of organic rather than mineral materials, resulting in a rather soupy consistency, that makes foot travel difficult or impossible.

Predicted Oil Impact

- Oil in any appreciable quantity may be very persistent in the organic sediment if minimal flushing occurs.
- The degree of vegetation oiling is a function of the tidal range and local topography.
- The season of oiling is important: dormant vegetation is the least sensitive to oil, whereas blooming and seeding plants are the most sensitive.
- Resident biota are likely to be heavily impacted, particularly reptiles, amphibians, and crustaceans. High mortality is likely.
- The odor and taste of freshwater supplies could be impacted by trace oil contamination.

Recommended Response Activities

- These high-priority areas require use of spill protection devices to limit an oil spill's impact. Use of deflection or sorbent booms and skimmers is recommended.
- Under light oiling, the best practice is to let the area recover naturally.

- Any cleanup activity that would mix the oil into organically rich sediments should be avoided.
- Manual oil pickup should be conducted using a floating platform, for example a jonboat or an inflatable boat.

B. Water Intakes

Presented below are response recommendations for water intakes during an oil spill or hazardous material incident.

- Water intakes should be protected before they are impacted by oil or should be turned off.
- Surface water intakes or intake areas should be boomed-off whenever possible to avoid oil impacts. However, strong currents or winds decrease the effectiveness of booming.
- When river flows or currents are strong, deflection booms should be used instead of attempting to surround intakes with booms. Double-booming is always recommended when possible.
- Some rivers are tidal in part. Deflection booms may not be effective in tidal rivers, as the water flow may decrease or reverse during rising tides.
- Water intake monitoring may be used to help decide when to turn off water intakes and can also be used to track the advance of an oil plume. For more information on water intake monitoring, refer to the *Selection Guide for Oil Spill Applied Technologies*(EPA, 2001).

C. Booming and Boom Locations

Numerous rivers and hundreds of streams are present in the sub-area. If an oil spill takes place, many different locations may need to be boomed in order to stop the spread of oil and protect sensitive areas. Presented below is general guidance for setting booms and choosing boom locations.

- When boom locations are chosen, the tendency is often to deploy too much boom in areas where it is likely to be ineffective. For example, booming across an entire river is often attempted but is almost never effective. Also, areas that look like obvious boom locations on maps or from overflights may be poor choices because of currents or flow volume. Before booms are deployed, currents and water flow must always be considered. Even with currents just above 0.7 knot, containment may be difficult to achieve.
- During the early stages of a response and booming operation, it can be advantageous to have workers remove pre-impact debris in areas determined to be at high risk for oil impacts. Having workers move debris lying along beaches and riverbanks up above the expected high river mark makes cleanup of such areas much simpler. Moreover, allowing debris to be impacted by oil greatly increases the amount of oiled waste requiring proper disposal.

- When areas are chosen for protection, marshes and swamps should generally be boomed before beaches and riverbanks. Marshes and swamps will be more heavily impacted than beaches and banks, and will be far more difficult to clean, and will generally recover more slowly.
- Booms are effective only in areas with low currents and flow rates. Isolation booming, or using a boom to surround or cut off an area, is effective only with very low or no current.
- Deflection booming is generally ineffective with currents above 2 to 2.5 knots, and boom deployment may be dangerous for boat operators under such conditions. Reverse diversion booming, which is used to collect oil, generally cannot contain the diverted oil in currents above 0.7 knot.
- Where water currents would entrain oil under such a boom, fast-water booming techniques may be beneficial. Fast-water booming techniques involve reducing the angle of the boom as the water currents increase. Such techniques must be well thought out and used only by well-trained and experienced crews. Under fast-water conditions, towboats can easily be capsized and submerged. Refer to the *Selection Guide for Oil Spill Applied Technologies* (EPA, 2001) for more information on fast-water booming.
- In many rivers, flow rates change seasonally or with tides. If the direction of flow will reverse with an incoming tide, booming must be carefully thought out. Booms maybe washed away or may dump collected oil during the flow reversal. Because of the limitations associated with currents, many areas that appear to be prime booming locations are actually poor areas for booms
- Narrow areas require less boom length, but generally have the highest flow rates. Wider river or stream areas generally have lower flow rates. Booming across an entire river, however, is rarely effective. Wide rivers often break booms, and booming wide areas with some current often funnels oil to the center of the boom, where the oil maybe entrained under the boom. Deflection booming is usually recommended in such cases.
- Bends in rivers and streams often appear to be good areas for collecting oil. However, the outside of a bend in any river or stream generally has a higher flow rate. The sharper the angle of the bend, the greater the difference between the flow rates on the outside and inside of the bend.
- When areas with fast currents need to be protected upstream but cannot be effectively boomed, it is often most productive to deploy a deflection boom in an area with slower waters. If oil can be directed into the center of a river further upstream, it will often remain in the center of the river as it passes through areas needing protection.

- In small streams, filter fences can be constructed by stretching chicken wire between two stakes and filling the wire with sorbents. Underflow dams can also be used to allow water to pass while trapping oil on the surface. In addition, streams can be completely blocked off or dammed up to stop oil flow, but blocking the flow of stream requires state approval.

D. Downstream Notifications

When an oil spill occurs, authorities in downstream areas that may be impacted should be notified as soon as possible. Even authorities in areas that have only a slight chance of oil impact should be informed of the situation quickly. Many small communities are not prepared for rapid response and require time for appropriate personnel to take protective action. Because many factors can slow downstream notifications and increase response time, such notifications should begin as soon as possible.

VI. SENSITIVE AREA INFORMATION FOR MONROE COUNTY

Table 5 through 13 provide information pertaining to the sensitive areas in Monroe County.

Table 5 Federally Listed Endangered and Threatened Species in Monroe County

Scientific Name	Common Name	Status	Habitat
Scirpus ancistrochaetus	Northeastern bulrush	Endangered	Found in ponds, wet depressions, or shallow sinkholes characterized by seasonally variable water levels
<i>Clemmys muhlenbergii</i>	Bog turtle	Threatened	Found in palustrine scrub-shrub or emergent wetlands

Table 6 Commonwealth of Pennsylvania-Listed Endangered Species in Monroe County

Scientific Name	Common Name	Habitat
<i>Clemmys muhlenbergi</i>	Bog turtle	Lives in relatively open portions of sphagnum bogs, swamps, or marshy meadows with slow-moving, spring-fed streams or runs with soft bottoms
<i>Scirpus ancistrochaetus schuyler</i>	Northern bulrush	Found in small wetlands (usually 1 acre in size or less) where the water level is high in spring and drops through the summer. Its range includes Vermont, Massachusetts, New York, Pennsylvania, Maryland, Virginia, and West Virginia.
<i>Trollius laxus</i> Salish, ssp. <i>Laxus</i>	Spreading globeflower	Grows in rich swamps, wet meadows and wet woods from Connecticut and New Jersey and Pennsylvania to Ohio. In PA its range is limited to the glaciated sections, where wetland habitats are calcareous (alkaline).
<i>Carex poymorpha</i>	Variable sedge	Found in open woods associated with pitch pine, scrub oak, or red maple in northeast Pennsylvania. The substrate is composed of a thin, sandy organic layer that overlays fine-textured, saturated soils.
<i>Empidonax flaviventris</i>	Yellow-bellied flycatcher	Found in coniferous forests, alder thickets, and high mountain bogs. In Pennsylvania, nests have been found in mossy, poorly drained areas (bogs and beaver ponds) surrounded by extensive northern hardwood forests. Most nest sites are near standing water; sphagnum moss; conifers; and high brush, blueberries, alder, and other shrubs.
<i>Neotoma magister</i>	Eastern woodrat	Prefers rock-strewn sites, usually mountaintops and valley sides. There, under tree canopy, a cave or boulders provide the network of subsurface crevices that shelter woodrats. This habitat and their nocturnal habits make the woodrats largely unknown among the general public.
<i>Pandion haliaetus</i>	Osprey	May be found anywhere on open water containing adequate fishing opportunities. Ospreys produce young in the Pocono and lower Susquehanna Valley regions of the state and Somerset County. During spring and summer, nonbreeding adults can be found throughout the state.

Table 7 Monroe County State Game Lands

State Game	Town	Regional Office	Contact Information
38	Tannersville	Northeast	Mr. Barry Warner Box 220 Dallas PA 18612 Telephone: (570) 675-1173 (717) 651-2001 (24-hour) Fax: (570) 675-2394 E-mail: blwarner@pgc.state.pa.us
127	Tobyhanna		
129	Lake Harmony		
168	Katellen		
186	Snydersville		
221	Cresco		
312	Gouldsboro		
318			

Table 8 Monroe County Sensitive Areas Owned by The Nature Conservancy

Preserve Name	Town	Habitat Features
Adams Swamp	Pocono Lake	Boreal conifer swamp
Cherry Valley	Hamilton	1 rare animal and 2 rare plants
Long Pond	Tunkhannock	54 rare species, including 22 rare insects and 4 natural communities, 1 which is globally rare
Lost Lakes	Tunkhannock	2 natural communities and 6 rare plants
Tannersville	Pocono	3 natural communities, 4 rare plants, and 1 rare insect
Twomile Run	Tobyhanna	1 natural community and 2 rare plants

Table 9 National Park Sensitive Area Contact Information for Monroe County

Management Unit	Contact Information
Delaware & Lehigh National Heritage Corridor 10 E. Church Street Room P-208 Bethlehem, Pennsylvania	Telephone: (610) 861-9345 Fax: (610) 861-9347 E-mail: DELE_Commission@nps.gov
Delaware National Scenic River c/o Delaware Water Gap National Recreational Area Bushkill, PA 18324	Telephone: (717) 588-2435 Fax: (717) 588-2780 Email: DEWA_Superintendent@nps.gov
Delaware Water Gap National Recreation Area Bushkill, PA 18324	Telephone:(570) 588-2451 (570) 588-2418 Fax: (570) 588-2780 E-mail: DEWA_Superintendent@nps.gov

Table 10: State Park Contact Information for Monroe County

Management Unit	Telephone and Fax Numbers	Contact Name
Tobyhanna PO Box 387 Tobyhanna, PA 18466-0387 E-Mail: tobyhanna.sp@al.dcnr.state.pa.us	Telephone: (717) 894-8336 Fax: (717) 894-5003	Mr. Ronald Dixon
Big Pocono c/o Tobyhanna State Park E-Mail: tobyhanna.sp@al.dcnr.state.pa.us	Telephone: (717) 894-8336	No designated contact
Gouldsboro c/o Tobyhanna E-Mail: tybyhanna.sp@al.dcnr.state.pa.us	Telephone: (717) 894-8336	No designated contact

Table 11. State Forest Contact Information for Monroe County

Management Unit	Phone / Fax	Contact
Delaware HC 1, Box 95A Swiftwater, PA 18370-9723 E-mail:	Telephone: (717) 895-4000 (717) 895-4001 Fax: (717) -895-4041	Mr. Anthony Cardwell

Table 12. Local Emergency Personnel Contacts for Monroe County

Contact	Address	Telephone Number	Fax Number
Mr. Harry Rubidoux, Coordinator	Public Safety Center 100 Gypsum Road Stroudsburg, PA 18360	(570) 992-4113 (Office) (570) 992-9911 (Community Center)	(570) 402-7358 (7359)

Table 13. Wetlands of Regional Importance in Monroe County Identified in the Regional Wetlands Plan

Site Name	City/Town	Wetland Type
Acquishicola Creek Pipeline	Windgap	PEM
Circle Bog	Long Pond	PSS, PEM, PFO
Lost Lakes and Halfmoon Lake	Pocono Pines	PSS, PEM, PUB, PFO
Long Pond	Long Pond	PFO, PEM, PSS, PUB
Mansfield Fen	Stroud, Stroudsburg	PEM
Two Mile Run Swamp	Blakeslee, Tobyhanna	PSS, PEM, PUB, PFO
Wagners Bog	Blakeslee, Tobyhanna	PSS, PEM, PUB, PFO
Warnertown Swamp	Coolbaugh, Warnertown	PSS, PEM, PUB, PFO
Wigwam Run	Bartonsville	PFO, PSS

Note: **PEM = Palustrine Emergent**, [EM] Emergent - Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. Emergent vegetation is present during most of the growing season in most years. Emergent wetlands are usually dominated by perennial plants.. **PFO = Palustrine, Forested** [FO] Forested - Characterized by woody vegetation that is 6 meters or taller. **PSS = Palustrine, Scrub-Shrub**[SS] Scrub-Shrub - Includes areas dominated by woody vegetation less than 6 meters (20 feet) tall. The vegetation includes true shrubs, young trees (saplings), and trees or shrubs that are small or stunted because of environmental conditions. **PUB = Palustrine, Unconsolidated Bottom**, [UB] Unconsolidated Bottom - Includes all wetlands and deep-water habitats with at least 25 percent cover of particles smaller than stones (less than 6 to 7 centimeters), and vegetative cover of less than 30 percent.

Fact Sheet: Monroe County, Pennsylvania

Fact Sheet:

**PEMA State
Emergency
Operation Center:**
(717) 651-2001 (24-
hour)

**PEMA Eastern
Region Emergency
Management
Specialist:** Mr. Bill
Mengel
(610) 562-3003

State Health Dept:
(717) 787-1708

**PADEP Northeast
Region Emergency
Response
Coordinator:**
Leonard Insalaco
570-826-2511

EPA Planning OSC:
Mr. Richard Fetzer
Office: (215) 814-
3263
Fax: (215) 814-3254
Pager: (215) 319-
0510
Cell: (215) 353-
3909

Contacts:	24-Hour County Dispatch: (570) 992-9911 EMA Coordinator: Mr. Harry Robidoux (570) 992-4113 Deputy EMA Coordinator: Mr. Bruce Henry (570) 992-9911 LEPC Chairman: Mr. James Farry Jr. (570) 992-4113 County Commissioners: (570) 517-3102 County Clerk: (570) 517-3450 County Tax Office: (570) 517-3412 Health Department: None
Hazmat Teams:	Teem Environmental Services, Inc.
Hospitals:	0
County Description:	Land Area: 607 square miles Estimated Population: 95,709 Major Industries: Major Water Bodies: Cherry Creek, McMichaels Creek Major Roadways: US 80, PA 11, 209, 533, 611
Planning Tools:	
Types of Facilities:	SARA Title III Facilities: 0 FRP Oil Facilities: 0 NPDES Facilities: 5 RCRA Facilities: 1 TRI Sites: 11
Sensitive Areas:	Special Populations: Environmentally Sensitive Areas: 19 riverines, 1 lake, 6 wetlands, 1 endangered plant, and 3 private conservation areas Economically Sensitive Areas: 4 sport fishing areas
Sources of Response Equipment	Teem Environmental Services, Inc. (see sub-area response plan, appendix 1, for surrounding counties)
Miscellaneous:	
Railroad:	Norfolk Southern Railroad: (610) 508-1000 or (800) 272-0911 Delaware-Lackawanna Railroad: (DL) - (570) 343-4580 GVT Rail System - Delaware-Lackawanna: (716) 343-5398

Note: The information summarized in this fact sheet is a compilation of county data gathered to date.

References

EPA. 1997. "EPA III Inland Area Contingency Plan; Volume I."

EPA 1997. "EPA R3 GIS Team sig1051 Bob Walker Map 1391."

USFWS. 2000. "Fish and Wildlife Annex to the U.S. EPA Region III Inland Area Contingency Plan."

EPA. 2001. "Selection Guide for Oil Spill Applied Technologies; Volume I."

USFWS Ecological Field Office. 2002 DRAFT. "Best Practices for Migratory Bird Care During an Oil Spill."