

**A Unique Wildlife Response:
The John Heinz National
Wildlife Refuge Spill**



2002 Freshwater Spills Symposium

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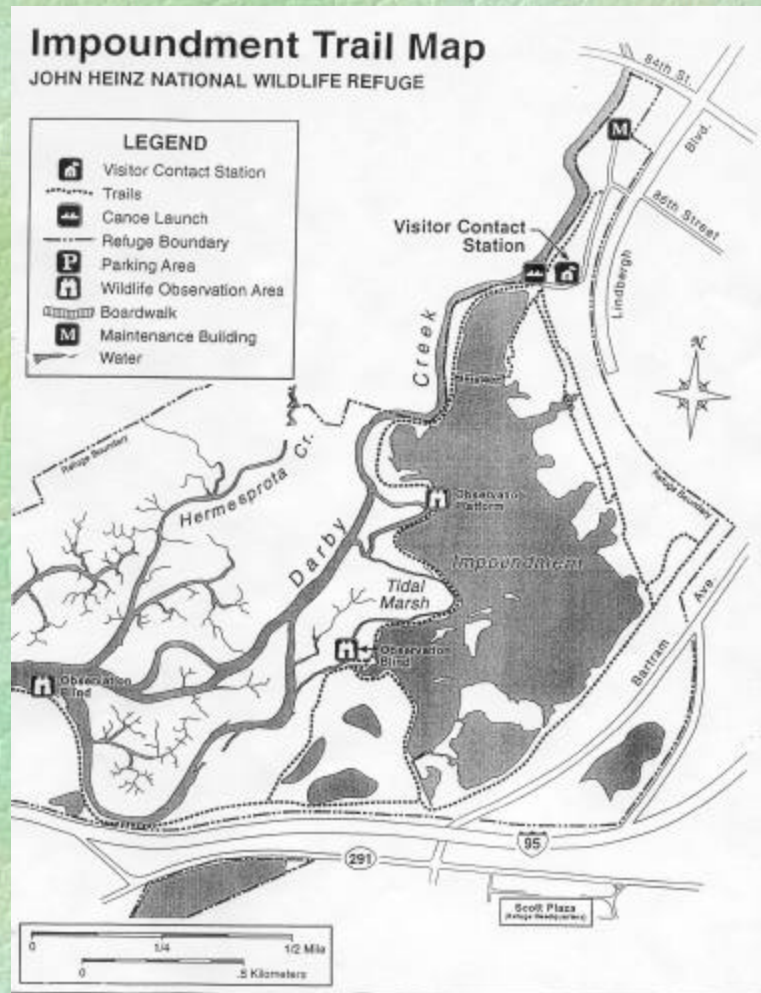
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John Heinz National Wildlife Refuge

Location & History

- Tinicum, PA just outside Philadelphia.
- Gulf Oil Corp. donated property to the City of Philadelphia (1950s) which later gave it to DOI-USFWS
- 1,200 acre refuge established in 1972
- Pipelines connecting Hog Island Wharf to Darby Creek Tank Farm

Site Location & History cont.



- Atlantic Flyway
- approx. 288 species of migratory birds and numerous other species of importance
- Pipelines adjacent to refuge remain in use after changing ownership

Spill History



Pictures by: Delaware Bay & River Cooperative

- 5 February 2000 smell noticed by a jogger
- Testing revealed oil trapped under approximately 4 inches of ice
- 24-inch pipeline ruptured at a joint
- estimated 191,000 gal. crude oil was released

Implications



- Presence of ice necessitated specialized cleanup methods
- Ice as a natural barrier
- Cleanup activities provided deterrent

Pictures by: Delaware Bay & River Cooperative

Wildlife Concerns

■ Reptiles

- 8 species of turtles:
 - Snapping Turtles
 - Red-Bellied Turtle *
 - Red-Eared Slider
 - E. Painted Turtle
 - Eastern Mud Turtle
 - Eastern Box Turtle
 - N. Diamond-Backed Terrapin
 - Common Musk Turtle
- 3 species of snake

■ Amphibians

- 8 species of frogs & toads including:
 - Coastal Plain Leopard Frog *

* denotes state threatened or endangered species

Coastal Plains Leopard Frog

(Rana utricularia)

Southern Leopard Frog

- PA State Endangered Species
- Occurring in S.E. PA
(Bucks, Delaware, and Pennsylvania Counties)
- Breeds in Early Spring
- Eggs attached shallow underwater vegetation
- Plans established proactively because of potential vulnerability of this species

Wildlife Admitted

- 13 Red-Eared Sliders
(*Chrysemy scripta elegans*)
- 4 E. Painted Turtles
(*Chrysemys picta x marginata*)
- 2 C. Snapping Turtles
(*Chelydra serpentina*)
- 1 Redbellied Turtle
(*Chrysemys rubriventris*)
- 1 Water Scorpion
(*Ranatra fusca*)

Medical Examination

- Provides baseline information regarding physiologic status and medical condition of animals presented
 - Species Identification
 - Internal body temperature
 - Evidence collection
 - Weight
 - Size
 - Stabilization as appropriate

Determining Treatment



- Species identification
- Degree of oiling and likelihood of ingestion
- Brumation concerns
- Consequences of ambient temperatures on length of rehab

Modified Cleaning Techniques



- Specialized restraint appropriate for species
- Altered technique for exothermic animal
- Differences in skin

Husbandry Considerations

- Captive husbandry varies greatly by species natural history and length of time anticipated for rehabilitation. At a minimum the following should be considered:
 - Housing Concerns
 - Container size and depth
 - Stocking Density / Conspecific Aggression
 - Access to Hide spots / Cover / Basking places
 - Adequate Filtration
 - Type of Substrate
 - Land / Water ratio
 - Potential for Disease Transmission
 - etc.

Husbandry Continued

■ Feeding Concerns

- Appropriate foods for age and species
- Presentation of foods
- Water quality
- Competition
- Separate eating areas?

■ Heating / Lighting

- Type of Heating
- Water temperature
- Type of Lighting
- Day Length / Seasonal Concerns (courtship, egg laying, brumation, etc.)

Release & Post Release Monitoring



- 1 Released (water scorpion)
- 18 Transferred for Release
 - to Drexel University (29 Mar 2000)
 - Released 16 June 2000
 - Tracked with radiotelemetry