



# Oil and Gas

## *Leaking Oil in a River Floodplain*

### Patoka Refuge

Established in 1994

Contains 5,587 acres

Located in Southwestern Indiana within the historically important north-south flyway of the Wasash River Basin

Strategically located to provide important resting, feeding, and nesting habitat for migratory waterfowl, shorebirds, and neotropical songbirds

As part of developing an oil field, proper placement of oil field equipment is necessary to avoid or minimize potential damage from leaks or spills. When locations such as floodplains are considered, problems with flooding should be expected. Placement of an oil and gas facility in a 100-year floodplain that has a history of annually flooding is poor planning. Flood waters do not recognize property boundaries, and adjacent properties do not have to have oil and gas infrastructure directly on them to be impacted.

Patoka is home to Prothonotary warblers and interior least terns – the National Audubon Society labeled the refuge as an Important Bird Area because of its large nesting populations. Other inhabitants include the marbled salamander, the Halloween pennant and Neotropical migrants – who rely on the refuge as their home or at least a stopping point on their journey. Why? The refuge provides dense stands of canebrake or giant cane – the only native bamboo to the US – bottomland hardwood forests – sweetgum, swamp white oak, pin oak and shellbark hickory – and restored uplands – once a coal mine. But under this mix of habitats, lies an area rich in hydrocarbons – particularly oil.

In 2011, an oil company started drilling within the 100-year floodplain near the Patoka National Wildlife Refuge along the Patoka River, which annually floods. The company's new oil tank battery was also placed within the floodplain in November, 2011. Around the Christmas holiday, the facility reportedly leaked an estimated 5 to 15 barrels of crude oil into the floodwaters that inundated the tank battery. Refuge staff learned of the spill on January 1, 2012 and investigated the site, since the floodwaters had receded into the Patoka River along with an unknown amount of crude oil.

The adjacent private property inundated was under a Wetland Reserve Easement



*Open pit awaiting burial/USFWS*

to the Natural Resource Conservation Service. Oil was deposited all through the property, with oil rings on all the trees and oil in the nearby slough that drained into the Patoka River. The spill was



*Waterfowl use on Patoka National Wildlife Refuges/USFWS*

reported to the Indiana Department of Environmental Management, since it was a Clean Water Act violation. An estimated 2 to 3 barrels of free product crude was recovered from floodwaters with a vacuum truck. The Indiana Department of Environmental Management instructed the oil company to stockpile the oil soaked corn stalks next to the tank battery along the county road berm, a high point in the area and an attempt to keep it out of water until removal. The Department determined that cleaning up all the oil deposited in big clumps throughout the forested area would cause more damage than leaving it in place. The responsible party was instructed to clean up the spills using manual labor due to the scattered location of the oil in the impacted habitat. The Service is concerned because when flooded, these bottom lands receive extensive waterfowl use and bald eagles feed from the area.

The responsible party was instructed by IDEM on December 21, 2011 of proper clean up procedures. On Jan. 4, 2012, the Service spoke with the landowner, who leased the floodplain field to the oil operator. The landowner was requested to ask the oil operator to remove the oil soaked pile of debris before the next flood inundated the site again. An adjacent landowner responsible for the easement was also asked to request the oil operator clean up patches of crude oil scattered across his forested woodland area, but he did not believe there would be a problem with the remaining oil puddles. Since this property is under an easement, we notified the Natural Resource Conservation Service of the spill.

The Fish and Wildlife Service will continue to observe waterfowl and bald eagles that use the area when it floods again to determine if wildlife are being harmed. The Operator has indicated they are planning to drill additional oil wells within the floodplain; this situation is not going to change anytime soon.

*The stockpile of oiled debris including that at the tank battery were removed and disposed according to IDEM/USFWS*



*Oil rings evident on trees and structures after flood waters receded. According to IDEM the responsible party hired a cleanup contractor that used manual labor to rake, pick up, and dispose of oiled vegetative debris; pads were used to soak up puddles of oil/USFWS*



*Thanks to refuge efforts, the oil company will now line drilling fluid pits, syphon off, then dispose of those fluids at an acceptable offsite location/USFWS*



**For More Information Contact**

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