National Pollution Funds Center Determination

Claim Number and Name:	G02AAA-OI02, *Rouge River Mystery* Oil Spill Restoration Costs – Request for Reconsideration
Claimant:	Department of the Interior
Claim Type:	Natural Resource Restoration
Amount Requested:	$4,972,553
Offer Amount:	$0
Denied Amount:	$4,972,553
Determination Date:	September 3, 2019
NPFC NRD Chief:	[redacted]

Summary of the Incident and Claim

Following heavy rain events on April 9 and April 12, 2002 apparent discharges of mixed diesel and lube waste oil were observed in the River Rouge (henceforth called the Rouge River), a tributary to the Detroit River in Detroit, Michigan. There were two separate discharges of the mixture, however the boom installed in the Rouge River following the first discharge largely contained the second discharge. The first discharge resulted in oiling along approximately 17 miles of the Rouge River, the Detroit River, and western Lake Erie. No responsible party (RP) was identified, and the response, initially conducted by the U.S. Coast Guard (USCG, under FPN G02AAA), and re-opened by the U.S. Environmental Protection Agency (EPA, under FPN E02503), was paid completely from the Oil Spill Liability Trust Fund (OSLTF or Fund).

Both the U.S. and Canada conducted response activities as oil in the Detroit River and Lake Erie affected waters and shorelines of both countries. Roughly ten miles of U.S. shoreline were oiled along with approximately 1.5-2 miles of freshwater marsh at Lake Erie Metropark. Eighteen kilometers (11 miles) of Canadian shoreline were oiled.

No fish kills were documented though lake sturgeon, a state threatened fish species, may have temporarily altered their behavior as a result of the spill.[1] Few wildlife mortalities were documented but resident and migratory waterfowl were observed within the area impacted by the spill. In total approximately 110 birds were observed dead, oiled and rehabilitated, or observed oiled but not captured.[2,3] Fifty-eight of those were birds protected by the Migratory Bird Treaty Act (MBTA) and found or observed in the U.S. Other wildlife directly observed in the U.S. included one dead and two rehabilitated turtles.[2,3]

On July 11, 2006, the National Pollution Fund Center (NPFC) approved a claim from the U.S. Fish and Wildlife Service (FWS), on behalf of themselves (as the representative of the Department of the Interior (DOI)) and the State of Michigan, for $8,184.38 in past assessment costs and $994,665.00 for future assessment activities. In 2015, the FWS submitted their final

[1] DARP, Section 2.2.1. Species of Concern

[2] Preliminary summary of impacts to fish and wildlife from the Rouge/Detroit Rivers Oil Spill of April 2002. Memorandum from [redacted] to [redacted], FWS June 13, 2002.

[3] DARP, Appendix 3, Revised SIMAP Injury Report, Table 3-2.

report and cost documentation totaling $910,979.70 in support of the Natural Resource Damage (NRD) Assessment Claim, and returned $83,685.30 to the Fund.

On November 14, 2018, the NPFC received a claim against the Fund from the FWS, again on behalf of themselves (as the representative of the DOI) and the State of Michigan, for $7,463,741.00 in damages to restore the natural resource injuries to fish and wildlife and their habitats.[4] The claim included the Rouge River Mystery Oil Spill Final Damage Assessment and Restoration Plan (DARP or Plan), the 2018 Final Amendment to the DARP, and the contents of the FWS's administrative record for the claim. The NPFC denied the Trustees' claim in total based on the Trustees' failure to establish clear jurisdiction for all of the natural resource damages claimed and the lack of certifications under 33 CFR 136.209(d). This determination was made in accordance with the Oil Pollution Act (OPA, 33 U.S.C. §2701 *et seq*.), the OPA claims regulations (33 CFR Part 136), and the Natural Resource Damage Assessment Regulations (15 CFR Part 990).

On March 20, 2019, the FWS submitted a Request for Reconsideration of the claim, per 33 CFR 136.115(d), and provided what the Trustees determined to be the factual and legal grounds for the relief requested along with additional supporting documentation. The request included a reduction in total damages for a revised sum certain totaling $4,972,533.00. The Trustees' request included the signed request, signed certification statements, the Trustees' Report of Legal and Factual Grounds for Reconsideration on NPFC's Denial of Restoration Claim (2002 Rouge River Spill Trustee Council, March 19, 2019), and an index of the supplemental Administrative Record (available online). The following constitutes the NPFC's adjudication of the Claim submitted for reconsideration, and the NPFC's final decision.

Jurisdictional Information

Claims to the NPFC must arise from an incident as defined by the Oil Pollution Act (OPA). 33 U.S.C. §2701 *et seq.* To be covered, the incident must involve a discharge, or a substantial threat of discharge, of oil from a vessel or facility into navigable waters of the United States after August 18, 1990. Excluded discharges include those permitted by a permit issued under Federal, State, or local law; from a public vessel; or from an onshore facility subject to the Trans-Alaska pipeline Authorization Act.[5] Based on the information summarized above, and confirmation by the EPA that no specific source of the discharge was positively identified[6] (and therefore no excluded source was identified), the NPFC has determined that this claim is for damages associated with an OPA incident.

Claimant Eligibility

Claims for natural resource damages must be presented by designated trustees under OPA. 33 U.S.C. §2706(b). Additionally, in the event of an incident where several trustees are

[4] Restoration Claim for the 2002 Rouge River Mystery Oil Spill, FPN G02AAA. [redacted], U.S. Fish and Wildlife Service. November 14, 2018.
[5] 33 U.S.C. §2702(c)
[6] Email from [redacted], EPA to [redacted], NPFC June 22 2018. Subject: Rouge River Mystery Spill

involved, and in order to prevent double recovery, trustees should select a lead administrative trustee (LAT) who will present a consolidated claim to the Fund. 33 CFR 136.207(a). This claim for natural resource damages was submitted on behalf of the DOI and the State of Michigan (Trustees), by the Regional Director, Region 3, U.S. Fish and Wildlife Service (FWS), who is an authorized official for the DOI[7] and is serving as the LAT.

The Secretary of the Interior acts as a trustee for natural resources managed or controlled by the DOI including resources located on, over, or under land administered by the DOI. Examples of the Secretary's trusteeship include the following natural resources and their supporting ecosystems within the U.S. migratory birds, anadromous fish, endangered species and certain marine mammals; federally owned minerals; and certain federally managed water resources.[7,8]

State trustees are designated by their respective Governor and act as trustees for natural resources, including their supporting ecosystems, within the boundary of a state or belonging to, managed by, controlled by, or appertaining to such state.[9] The Governor of the State of Michigan designated the Directors of the Michigan Department of Natural Resources and the Department of Environmental Quality as co-trustees in conjunction with the Michigan Attorney General for the State of Michigan.[10] No other states are party to the claim.

In the absence of other trustees being party to the Claim[11], compensation is restricted to damages associated with injuries to those resources for which the DOI or the State of Michigan have trust authority. The NPFC originally denied the Claim on the basis that the Trustees had not established trustee jurisdiction over certain resources injured for which they were seeking damages (i.e., resources in Canada and certain resources in Ohio). In the Request for Reconsideration, the Trustees modified the Claim, restricting the injury assessment to reflect only those injuries to resources under the trusteeship of the DOI and/or the State of Michigan. The LAT further certified that, to the best of LAT's knowledge, no other trustee has the right to present a claim for the same natural resource damages.[12]

The NPFC has determined that DOI and the State of Michigan are eligible claimants for damages associated with this incident.

General Claim Requirements

Claims to the Fund must be presented in writing to the Director, NPFC within three years after

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[7] Rouge/Detroit River Mystery Oil Spill, Wayne County, Michigan Natural Resource Damage Assessment and Restoration (NRDAR) Activities – Designation of Authorized Official (AO). Memorandum: [redacted], DOI to [redacted], FWS. October 19, 2004

[8] 40 CFR 300.600(a)(2) and EO12777

[9] 33 U.S.C. §2706(b)(3) and 40 CFR 300.605

[10] Letter to EPA Administrator [redacted] from Michigan Governor [redacted], Designation of natural Resource Trustees for the State of Michigan, September 29, 2004. 2002 Rouge River Mystery Spill Assessment Claim (2005), Attachment 1.

[11] Invitation to NOAA and NOAA Response – October 5, 2004 and October 28, 2004. DOI Administrative Record II.2.g (NOAA defers participation)

[12] Letter from [redacted], FWS, to [redacted], NPFC, re: Claim Certifications, March 20, 2019

the date on which the injury and its connection with the incident in question were reasonably discoverable with the exercise of due care, or within three years from the date of completion of the natural resource damage assessment under OPA (33 U.S.C. §2706(e)), whichever is later. 33 U.S.C. §2712(h)(2), 33 CFR 136.101(a)(l)(ii). The Trustees published the Final Damage Assessment and Restoration Plan (DARP) on November 16, 2015. The NPFC received the claim on November 14, 2018.

Costs for Damages are determined with respect to plans adopted under 33 U.S.C. §2706(d)(2) that are developed and implemented after adequate public notice, opportunity for hearing, and consideration of all comments. 33 U.S.C. §2706(c)(5). The Trustees published a Notice of Intent to Conduct Restoration Planning on September 17, 2008, and published a Draft Damage Assessment and Restoration Plan (DARP) on October 7, 2015 with provisions for public comment. The Final DARP was published on November 16, 2015. An amendment to the 2015 Plan modifying the preferred restoration projects was published on September 21, 2018 with provisions for public comment. No public comments were received on either the draft DARP or the amendment to the DARP.

With certain exceptions, claims to the NPFC for damages must be presented first to the RP. 33 U.S.C. §2713(a). If a claim is presented in accordance with §2713(a) and is not settled by payment by any person within 90 days after the date upon which the claim was presented, the claimant may elect to commence an action in court or present the claim to the OSLTF. 33 U.S.C. §2713(c)(2). As indicated in the above *Summary of the Incident and Claim*, no RP was identified. Additional due diligence prior to submitting the claim to the NPFC confirmed the lack of an identified RP.[13]

Additionally, claimants must provide certain certifications under 33 CFR 136.105, 113, and 209. In conjunction with the Request for Reconsideration, the Trustees provided all the requisite certifications.

Finally, the Director, NPFC reconsiders any claim denied if the written request for reconsideration is received within 60 days after the date the denial was mailed to the claimant or within 30 days after receipt of the denial by the claimant, whichever date is earlier. NPFC received a request for reconsideration of the denied claim on March 20, 2019, 29 days after the FWS received the written denial. 33 CFR 136.115(d).

The NPFC has determine that the claimant satisfied the general requirements for a claim to the Fund and for requesting reconsideration of a denied claim.

Claimant's Burden of Proof

Trustees bear the burden of providing all evidence, information, and documentation deemed necessary by the Director, NPFC, to support the claim. 33 CFR 136.105(a) and 33 CFR 136.209. To satisfy this requirement, the claimants provided the 2015 DARP, the 2018 Amendment to the DARP, and supporting materials and communications included in the

[13] Email from [redacted], FWS to [redacted] NPFC, June 21, 2018, Rouge River Mystery Spill (regarding status of responsible party determination).

Administrative Record. With the Request for Reconsideration, the Trustees' included the signed request with the revised sum certain value, signed certification statements, the Trustees' Report of Legal and Factual Grounds for Reconsideration on NPFC's Denial of Restoration Claim, and the link to the supplemental Administrative Record. Additionally, the Trustees provided a written response[14] dated June 28, 2019 to the NPFC's request for additional information.[15]

The NPFC acts as the fact-finder during the adjudication of claims. In this role, the NPFC considers all relevant evidence and weighs its probative value when adjudicating a claim. The NPFC is not bound by the findings or conclusions reached by other entities. If there is conflicting evidence in the record, the NPFC makes a determination as to what evidence is more credible or deserves greater weight, and finds facts based on the preponderance of the credible evidence. The NPFC considered all of the documentation provided by the Trustees along with independently conducted fact finding in the adjudication of the Claim in the context of the Request for Reconsideration.

Injury Determination

The Trustees assessed injuries to birds, muskrats, reptiles and amphibians, fish, and marsh habitat. The Trustees determined that natural recovery was sufficient to restore resources to baseline levels,[16] and chose to limit their Claim to compensatory damages for interim losses. The interim loss was characterized in terms of direct mortality and foregone productivity of the various resource categories. The Trustees used the Spill Impact Model Analysis Package (SIMAP) to model the direct mortality and foregone productions for each resource category and convert those losses to the amount of food (marsh biomass) required to replace the lost production.

SIMAP contains physical fate and biological effects models which estimate exposure and impact on each habitat and species (or species group) in the area of a spill. A bioenergetics model calculates the quantity of food necessary to grow or sustain a comparable quantity of the lost resources. Environmental, geographical, physical-chemical, and biological databases supply required information to the model for computation of fates and effects.[17] The NPFC generally considers SIMAP as a reasonable and appropriate tool for fate and transport modeling and estimating biological exposure.[18] However, when using any type of modeling to characterize or

[14] Trustees response to the NPFC Request for Additional Information Regarding the Trustees' Claim for Restoration, June 20, 2019.

[15] Memorandum from [redacted], NPFC, to [redacted], FWS, Requesting Additional Information for Claim Go2AAA-OI02. May 2, 2019.

[16] DARP, Section 1.3 Summary of Selected Restoration Projects, page 5.

[17] DARP, Appendix 3.

[18] Other claims paid including SIMAP injury assessment methodology include (but are not necessarily limited to): Florida Mystery Spill, M00098-OC1 (Assessment and Restoration Claim based in part on SIMAP assessment methodology); T/B Vistabella, 071031-PR1 (Assessment Claim using SIMAP for injury assessment); T/V Genmar Progress, M07029-OI1 (Preassessment Initiate using SIMAP for injury assessment – claim settled before coming to Fund); S99018-OI1 (Assessment and Restoration Claim based in part on SIMAP assessment methodology for fish and invertebrate injury assessment); Galveston Bay T07001-TX1 (Assessment Claim using SIMAP for injury assessment) .

quantify injury, the Trustees bear the burden of showing how the model inputs and results are valid and reliable for the incident.[19] To that end, the NPFC analyzed whether the inputs and outputs of the models are consistent with observations in the field at the time of the incident. Modeled results must be consistent with observations in the field. Results inconsistent with field observations, purely speculative in nature, or which include hypothetical effects that are not substantiated by the literature or other evidence are not sufficient support for a claim to the Fund.

The SIMAP Fates Model simulates the distribution of oil in space and time; and the SIMAP Biological Effects Model calculates the area, volume, or portion of a stock or population affected by a surface oil, concentrations of oil components in the water, and sediment contamination. For wildlife, the number or fraction of a population suffering oil-induces effects is proportional to the water-surface area swept by oil (or area/length of shoreline oiled) of sufficient quantity to provide a lethal dose to an exposed animal.[20] As such, an accurate representation of the geographic and temporal distribution of oil and overlapping presence of fish and wildlife are critical to obtaining valid results.

The NPFC has concluded that the modeled distribution of oil and the expected resulting impacts to fish, wildlife, and shoreline habitat are not just unsupported by, but actually contradicted by, the incident specific data. Consequently, the NPFC has determined that the modeled injuries do not reasonably represent the natural resource injuries associated with the incident, and the Trustees have not proven their Claim. Key findings follow.

Fate of Oil

The modeled surface water oiling and shoreline oiling are considerably more expansive and more persistent than that observed in the field.

By all accounts, the spilled material did not behave as a diesel/lube oil mixture would have been expected to behave, and the Trustees' repeatedly acknowledge the non-persistent nature of the spilled material and the rapid dissipation from the water surface and shoreline. By example, the Trustees state: "comparison of the aerial SCAT observations dated April 10th and April 12th, particularly at Point Mouillee, demonstrate the dissipation of oil associated with the shoreline," and "review of the April 10th, April 11th, or April 12th 2002 SCAT Oiling Maps suggest that oil in the Detroit River system may have dissipated within days of discharge."[21] Corroborating response documentation indicates that as early as April 12th there was 'no oil" remaining at Point Mouillee, and by April 15th there was no free floating oil south of Elizabeth Park.[22]

By contrast, the model identifies the percent of oil ashore increased through Day 11 (April 20th-21st) [23] including increased deposition at Point Mouille and shorelines further south, and the

[19] 15 CFR 990.27(a)(3)

[20] The SIMAP approach is described in the Plan Appendix 3 Attachment A; the results of the Fate and Trajectory modeling are described in Attachments B and C; the biological input data are described in Attachment D, and the results of the application of the biological model for this incident are described in Attachment E.

[21] Report of Legal and Factual Grounds for Reconsideration of NPFC's Denial of Restoration Claim pp 13-14.

[22] Pollution Report 6

[23] DARP, Appendix 3, Attach. C

model projected nearly 50% of the total discharged volume remained either on the surface of the water or ashore as late as April 24th.[24] The over-projection of the extent and persistence of oiling by the model is clearly illustrated by Figure 1 in the Plan, which depicts the degree of modeled shoreline oiling remaining throughout the Detroit River and Lake Erie on April 27th, including extensive areas with oil ≥1 mm thick (and even ≥1 cm thick).

Other contrasting comparisons include:

- Modeled shoreline oiling averaging ≥ 0.01 mm thickness (the exposure identified in the claim as lethal to birds and wildlife[25]) totals 59 miles of affected shoreline including 27 miles of fringe marsh.[26] Correcting for U.S. impacted shoreline (66.2%)[27] this results in 39 miles total of which 18 miles is fringe marsh. At average oiling ≥1mm thickness (the thickness identified as lethal to marsh vegetation)[28], the total U.S. shoreline oiled according to the model is 17 miles of which 11 miles is fringe marsh. In contrast, the SCAT reports indicate irregular shoreline staining (further described as oiling of 0.1-1 mm thick) along 10 miles of U.S. shoreline (predominantly artificial shoreline) and 1.5-2 miles of oiled marsh vegetation at Lake Erie Metropark.[29]
- The model did not account for response actions, except for booming at the mouth of the Rouge River before the second release. No calculus was included to account for protective booming, shoreline cleaning, oily debris removal, and oil recovery from the water surface of over 65,000 gallons of emulsified oily product. As such, the model includes exposure of plants and animals to oil where oiling did not occur or where oil only persisted for a fraction of the calculated period.[30]

These discrepancies between modeled outcomes and observed outcomes are most readily accounted for by the *volume and composition of oil spilled* inputs to the Fates Model. The Fates Model relies on a spill volume of 339,810 gallons of a 1:1 mixture of diesel fuel oil and waste lubricating oil: 270,046 gal of which is attributed to the April 9, 2002 discharge and 69,764 gal to the April 12, 2002 discharge.[31] According to the Plan Appendix 3 Section 4. 1, the total volume of discharge is comprised of:

- 256,544 gal, incorporating the 255,544 gal observed on the waters of the Detroit River mid-day on 10 April and the 1,000 gal reported cleaned from the Rouge River prior to the second discharge;
- 66,276 gal of oil collected from the water (62,500 gal) and the banks of the Rouge River

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[24] Model .AVI files indicate persistence of free floating oil in Lake Erie into late April with shoreline deposition increasing into late April.

[25] DARP, Appendix 3, Attachment A.

[26] Total based on DARP Appendix 3 Table 6-2 shorelines with average thickness greater than threshold (though it should be noted that Appendix 3 Attachment C Table C-3 includes total marsh and mudflat shoreline area oiled at any time using threshold greater than 0.01 mm of 2,410,748 m^2 or 1,497 miles [991 miles in US])

[27] Correction applied by Trustees for shoreline oiling specific to US shorelines in the Trustees' Report of Legal and Factual Grounds for Reconsideration of NPFC's Denial of Restoration Claim, March 19, 2019.

[28] NOAA's SSC report on Oil Volume Estimate of the Rouge/Detroit River Mystery Spill, [redacted], NOAA

[29] As discussed in NOAA's SSC Report on Oil Volume Estimate of the Rouge/Detroit River Mystery Spill, [redacted], NOAA

[30] Such as the interior marsh areas of Point Mouille.

[31] The Trustees relied on the "best estimate" of 322,820 gallons "oily material" spilled calculated by [redacted], Spiltec, Detroit River "Mystery Oil Spill" –April, 2002 Surface Volume Estimates. May 10, 2002.

(4,776 gal) during the response (minus the 1,000 gal attributed to the first discharge); and
- 16,990 gal to account for evaporation by the time of the observation.

As described by [redacted] (who provided the 255,544 gal "best estimate" of oil on the Detroit River on April 10th), and acknowledged by the Trustees, "The content of the spilled material is unknown and the "mystery oil/emulsion" is clearly quite different from most crude oils and refined oils (and their emulsions) as the oil spilled here looks, smells and behaves like a very uncommon mixture of oily liquids and/or other materials.[32] His "best estimate" is further predicated on the assumption that the dark ribbons of oil on the river were 2 to 3 mm thick, considering that dark oils thicken to 2- 3 mm as the oil becomes emulsified, weathered, or contaminated with other materials. [redacted] proceeds to use 2.5 mm thickness as the nominal value for the dark layers of material visible on the water, but does not discount for the presumed emulsification, weathering, or contamination when translating the volume of material observed on the surface of the water to a "spilled volume of oil." The trustees further inflate the total by accounting for evaporation that would have occurred prior to the observation period (midday April 10) from which the "best estimate" was generated. They state that 5% evaporation was added to account for evaporation over the duration of the first spill event of April 9th-10th, but then proceeded to apply a 5.26% calculus to the total volume of 322,820 gal which includes the > 60,000 gal attributed to the April 12 discharge.

Significant analyses and observations rebut the Trustees' assertions of <u>oil</u> discharge volume and/or composition (1:1 diesel and waste lube oil).
- As described previously, the observed extent and persistence of oiling was far less than projected in the model and inconsistent with typical behavior of oil.
- The behavior of a controlled experimental release was consistent with the unusual behavior of the discharged material, providing further support for a significant non-oil component that affects the behavior and persistence of the discharged material.[33]
- The Trustees assert the results of field fractionation of the recovered material[34] support their estimate of the material being primarily oil.[35] However, field fractionation tanks are used to remove excess recovered water and are not diagnostic with regard to the specific composition of spilled material. Emulsions and mixtures are not actively fractionated. Therefore, the

[32] [redacted] (Spiltec Report 2002) characterizing material on the surface of the water –"The spilled material's nearly neutral density, cohesive properties, relative non-persistence and ease of physical dispersion make it difficult to predict its natural fate and behavior. In strong currents and in open water with light to moderate wind and waves, it appears that the oil/emulsion does not persist for much more than 5 to 6 hours." And, "The material spilled during this event appears to be a complex mixture that does not behave like most crude or refined oil products. It tended to remain at the surface as a thick, dark layer for several hours, curiously matched by the ease with which it breaks up and disperses naturally under light to moderate wind and wave conditions. The waterborne slicks observed on the Detroit River on April 10th apparently broke up and dispersed quickly as relatively little oily material could be found the following day. The spilled material seemed to be spreading out slightly and thinning as it entered Lake Erie, resulting in little, if any, visible oil on the surface a mile or two south of the Detroit River Light."

[33] [redacted] (Spiltec Report 2002) describes the emulsified oil in the controlled release as spreading out quickly, and that with agitation - either from the wind, a boat oar, or the movement of boats and sorbents - the dark patches could be made to spread and break up (indicating a reduction in cohesive properties).

[34] Roy F. Weston Inc. River Rouge Oil Spill. River Operations Report, Section 3. June 27, 2006.

[35] Trustees' Report of Legal and Factual Grounds for Reconsideration of NPFC's Denial of Restoration Claim, p 13.

fractionation results should not be used to validate the composition of the spilled material.

- The Trustees cite sample analyses by [redacted]. (2004)[36] indicating that the oil was a mixture of waste lube oil and <20% weathered diesel and did not report the presence of sewage in the samples.[37] However, [redacted] (a co-author of the study) reported to the NPFC[38] that the study only addressed characterization of the oil fraction of the samples and did not include any analyses of the non-oil fraction of the sample. [redacted] is referenced elsewhere as indicating very little oil could be extracted from the samples and that the majority of the contents were typical sewage solids.[39]

The NPFC concludes that the Trustees failed to account for the unusual composition of the "oily material" which significantly affected the behavior of the spilled material (i.e., distribution and persistence of the spilled material in the environment). This resulted in the model (which relied on behavior parameters associated with diesel and lube oil) overestimating the distribution and persistence of oil to which biota were exposed.

Biological Effects

As with the oil fate modeling, the NPFC evaluated the reasonableness of the outcomes of the biological effects model in the context of the observations at the time of the spill.

The summary of injuries is provided in the Plan, Appendix 3, Section 6. Direct mortality serves as the basis of the injury determination (further translated into lost productivity and ultimately to the number of discounted service acre years (DSAYs) of mixed cattail and sedge restoration to compensate for the lost productivity). Based on how DSAYS are calculated, injury to greater and lesser scaup and muskrats account for the vast majority of the natural resource damages. The SIMAP modeling calculated a total of 4,106 scaup and 308 muskrats directly killed by the spill (or 3,186 scaup and 204 muskrat in the U.S. based on the 77.6% correction applied for scaup and the 66.2% correction applied for muskrats by the Trustees in the Request for Reconsideration).

By contrast, of the 110 birds observed oiled by the spill, only two were scaup (both captured, rehabilitated, and released in Canada). There were no oiled muskrats observed. The Trustees describe several limitations to their ability to observe oiled birds and other wildlife including inaccessibility of shorelines, the propensity of wildlife to conceal themselves when stressed (and therefore hidden when killed), and the fast currents observed in the Rouge River and Detroit River contributing to birds being swept away from shore and later sinking before detection.[40] The Trustees did not conduct carcass detection efficiency studies or carcass fate/drift studies to support their assertion that the recovery/observation rate is reasonable and appropriate. The NPFC finds that the incident specific data do not support the model but neither do the data necessarily contradict the model. The NPFC, therefore, looked at the validity of the model inputs

[36] [redacted]. 2004. Characterization and identification of the Detroit River mystery oil spill (2002). Journal of Chromatography A., 1038 (2004). pp. 201-214.
[37] Trustees' Report of Legal and Factual Grounds for reconsideration of NPFC's Denial of Restoration Claim, p 26
[38] Email from [redacted] to [redacted], NPFC. June 19, 2019 Re: For clarification: results of spill characterization, 2002 Rouge River Mystery Spill
[39] NOAA's SSC report on Oil Volume Estimate of the Rouge/Detroit River Mystery Spill, [redacted], NOAA
[40] Trustees' Report of Legal and Factual Grounds for reconsideration of NPFC's Denial of Restoration Claim, pp 5-6.

to establish the reasonableness of the outputs.

Fish and wildlife density and distribution surveys were not conducted at the time of the spill. The biological effects modeling relied on historical surveys collected from a variety of resources, giving deference to those surveys closer to the affected area in space and time.[41] Wildlife populations are assumed to be in equal density across each ecosystems (each grouping of like habitat grid cells) and remix within each ecosystem each day. For each day of the simulation, those oiled above a threshold dose are assumed to die, and the remainder may be oiled in subsequent days if oil is still present on the water surface.[42] No allowances/corrections were made to account for the active hazing in the Lake Erie Metropark area or the incidental disturbance (further described below) on species distribution.[43]

The probability of exposure is related to behavior (i.e., the habitats used and percentage of time spent in those habitats on the surface of the water). For example, scaup (which account for a large portion of the calculated injury) are considered to have a combined probability of encounter with the slick and mortality once oiled of 99% for open water habitats 1-3 m deep.[44] To achieve that percentage, the NPFC concludes that scaup must be treated as ever present in that habitat. However, the Trustees note, with regard to scaup, "given their propensity to avoiding disturbance associated with boats, the majority of scaup within the system would likely have been absent from feeding areas during daylight hours. Birds would have likely immediately returned to these areas to feed in the evening and at night, which is consistent with known feeding ecology of these species."[45] Based on the probability stated above, the model is including injury to scaup in those habitat grids swept by oil in daylight hours when scaup are not present.

The NPFC offers an additional example to illustrate the magnitude of the injury calculated through the SIMAP model in contrast to observed impacts.

- Muskrats were the only species of mammal considered to be significantly injured by the spill (and account for ~40% of the total injury). The Trustees estimated direct loss in Total/US jurisdiction of 308/204 muskrats, loss of 940/622 young equivalents and loss of 398/263 animal-years, respectively. The Trustees based these finding on a density of 108 muskrats/km^2 in wetland habitats[46], with direct mortality caused by exposure to 10 g/m^2 (0.01 mm) oil, and a combined probability of exposure and mortality of 75% within habitats the species occurs.[47]
- Assuming a density of 108 muskrats/km^2, this translates to 1.89 km^2 worth of muskrats killed

[41]DARP, Appendix 3, Attachment D. Although the Trustees did not provide copies of the surveys used, the Trustees' assert that they relied on data that was peer-reviewed and published or obtained directly from the natural resource agencies charged with the science-based management of natural resources within the Detroit River system. Trustee Response to NPFC Request for Additional Information, p 24]

[42] DARP, Appendix 3, Attachment A, Section 3.1.

[43] Trustees' Report of Legal and Factual Grounds for reconsideration of NPFC's Denial of Restoration Claim, pp 34 and 35. Hazing occurred in the western Detroit River corridor at the Lake Erie Metro Park beginning on April 14, 2002.

[44] Final Damage Assessment and Restoration Plan Rouge River Mystery Spill, November 16, 2015. Appendix 3. Table 2.1

[45] Trustees' Report of Legal and Factual Grounds for reconsideration of NPFC's Denial of Restoration Claim, p 35

[46] DARP, Appendix 3, Attachment D, Table D-1.

[47] The specific habitat types where muskrat exposure was assessed is unclear

in the U.S.[48]

- If the muskrats exposed are those living within 20 m of the oiled shoreline/water (based on muskrats foraging not further than about 15 m on average from their den[49] and the band of oiling extending 1-2 meters into marsh areas and less along other shoreline types[50]) this translates to a loss of all muskrats along 58 miles of occupied shoreline in the U.S.
- This is contrasted with, no dead or oiled muskrats were observed or recovered, and per SCAT reports, total shoreline oiling was less than 20 miles in the U.S (and substantially less in marsh habitat).

The NPFC finds that the calculated direct mortality, which serves as the basis for the injury quantification, is unreasonable and unsupported.

Injury Scaling, Restoration Planning, and Damages Claimed

Given that the Trustees' did not support their claimed injury assessment, the NPFC cannot provide a comprehensive determination regarding the reasonableness and appropriateness of the injury scaling, restoration scaling, restoration alternatives analysis, likelihood of success, and proposed monitoring. However, during the adjudication process, NPFC did note additional components of the injury and restoration scaling that magnify the damages.

- There is substantial evidence that at least some portion of the muskrat population is managed or controlled to reduce infrastructure and habitat destruction.[51] As such, the natural resource services lost are not equivalent to the young equivalents lost. The NPFC does not provide compensation in equal measure for resources that are controlled to keep population levels down (i.e., nuisance or non-native species).
- The Trustees divided scaup almost evenly between birds feeding on fish (piscivorous) and birds feeding on invertebrates and vegetation stating that scaup consume both small fish and invertebrates.[52,53] The NPFC found no corroborating resources that indicate scaup consume fish to any notable degree particularly in the Great Lakes region where zebra mussels have become a prevalent food source.[54] As such, the inclusion of a significant percentage of scaup as piscivorous birds effectively doubles the necessary restoration to compensate for bird losses based on the comparative bioenergetics parameters.

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[48] 204 muskrats/108 muskrats per km^2 = 1.89km^2

[49] USFWS. 1984. Habitat Suitability Index Models: Muskrat. FWS/OBS-82/10.46.

[50] NOAA's SSC Report on Oil Volume Estimate of the Rouge/Detroit River Mystery Spill, [redacted], NOAA p 6.

[51] Detroit River international Wildlife Refuge: Muskrat Management Plan – Brancheau Unit, Winter 2016 -2017 indicates 30 to over 200 muskrats were trapped annually from 2012-2015 to control muskrat damage of impoundment infrastructure.

[52] Trustees' Report of Legal and Factual Grounds for reconsideration of NPFC's Denial of Restoration Claim, p6

[53] Trustees Response to the NPFC Request for Additional Information Regarding the Trustees' Claim for Restoration, June 20, 2019. Pp 25-28.

[54] According to Birds of North America, Greater Scaup, V 2.0 January 1, 2002 and Lesser Scaup, V 2.0, November 14, 2014 consumption of fish is largely opportunistic, generally limited to scavenging of carcasses and eating fish spawn and eggs in the Pacific Northwest. Both references cite the predominant consumption of zebra mussels in the Great Lakes along with wild celery, other snails, and worms.

The Trustees' claimed damages are summarized in Table 1 of the Trustees' Report of the Legal and Factual Grounds for Reconsideration. The total includes $4,126,650 for implementing restoration projects, $506,099 for monitoring for conservation benefits, and $339,804 in Trustee oversight costs. The NPFC did not adjudicate the reasonableness and appropriateness of the costs given the unsupported injury assessment and the NPFC's subsequent inability to adjudicate restoration scaling and proposed restoration projects.

Decision

The NPFC has reviewed the claim submitted by the FWS for costs to implement restoration activities for the *Rouge River Mystery* spill in accordance with OPA [33 U.S.C. §2701 *et seq.]* and associated regulations, 33 CFR Part 136 and 15 CFR Part 990. After reviewing the trustees' original Claim and the additional information provided with the Request for Reconsideration, the NPFC has determined that the Trustees failed to support the validity of the injury assessment and that there is substantial evidence to rebut the Trustees' claimed natural resource damages. The Trustees relied on unsupported model inputs and scaling parameters that collectively inflate the damages beyond what is reasonable and appropriate.

This written decision is final and constitutes final agency action.

[redacted]
NRD Claims Chief
202[redacted]