

Corrections

Hatches Harbor restoration

John Portnoy, ecologist with the National Park Service, points out an error in figure 4 of his article “Estuarine habitat restoration at Cape Cod National Seashore: The Hatches Harbor prototype,” published in *Park Science* 22(1):53. The bar graph shows increasing mean tidal range in the salt-marsh restoration site since the installation and gradual opening of culverts in 1999. The mean tidal range for the unrestricted or natural marsh was 1.02 m, not 0.66 m as indicated in the graph.

Parking lot sealants

We received e-mail about our Information Crossfile article, “Are ugly parking lots healthier?” published in volume 23(2):19. Our intent was to call attention to parking lot sealants as a previously unrecognized significant source of concentrated carcinogenic aquatic contaminants called PAHs (polycyclic aromatic hydrocarbons). However, we were too broad in our presentation, implying that any application of sealants would be environmentally detrimental. As Dave Kruse, coordinator of the Pacific West Region Federal Lands Highway Program, points out, “The article fails to [explain] that there are more types of sealants than the coal tar-based sealants that do indeed contain PAHs.” Asphalt emulsion sealants, he relates, do not contain coal tar or PAHs and “the vast majority of asphalt sealants are emulsions and not coal tar based.” According to Kruse, the National Park Service commonly uses rapid-set asphalt emulsion sealers, including fog seal, slurry seal, and chip seal to maintain pavement.

Our title was also a poor choice as it suggests that allowing park infrastructure to deteriorate benefits the ecological health of parks. Infrastructure, including roads and parking lots, in the national parks must be maintained properly or, as Kruse reminds us, “we will see pavement cracking and breaking up prematurely, which will lead to increased costs and consumption of new oil-based asphalt,” another source of PAHs.

We also heard from Roy Irwin, contaminants specialist with the NPS Water Resources Division, who found the article incomplete. He encourages readers to refer to the

NPS *Environmental Contaminants Encyclopedia* at <http://www.nature.nps.gov/hazardssafety/toxic> for questions about road and trail treatments of all types, not just asphalt and its sealants. The encyclopedia is more comprehensive than the EPA source we cited and profiles 118 contaminants, listing benchmarks for toxic concentrations of metals, industrial organic chemicals, and hydrocarbons in water, sediment, soil, and tissues. Asphalt is reviewed at <http://www.nature.nps.gov/hazardssafety/toxic/asphalt.pdf> and PAHs at <http://www.nature.nps.gov/hazardssafety/toxic/pahs.pdf>.

Irwin has concerns that asphalt emulsion sealers could plausibly contain PAHs, though he has not seen test results to this effect. “We know that asphalt contains PAHs,” he says, “so ... I would not ... assume any product based on asphalt would not contain PAHs.” Irwin explains that compounds listed as inert for a particular product purpose are not necessarily nonhazardous under certain conditions. Complicating the matter is the difficulty of obtaining product scans for a full suite of suspect compounds. Irwin feels that test results of asphalt emulsion sealers that showed method detection limits (MDL) of less than 10 ppb of PAHs and alkyl PAHs “would be reassuring.” Still, he acknowledges that the PAHs in asphalt “are relatively immobile until the asphalt breaks down,” and says that oil from cars is probably a bigger source of these contaminants.

We regret the misinformation and hope the extended comments help clarify the issue. 

—Editor