



HAL
open science

THE VIRGINIA OIL SPILL IN PROVENCE: A TALE OF INAPPROPRIATE OVER-CLEANING

Charles-François Boudouresque, Aurelie Blanfuné, Gilles Martin, Michèle Perret-Boudouresque, Isabelle Taupier-Letage

► **To cite this version:**

Charles-François Boudouresque, Aurelie Blanfuné, Gilles Martin, Michèle Perret-Boudouresque, Isabelle Taupier-Letage. THE VIRGINIA OIL SPILL IN PROVENCE: A TALE OF INAPPROPRIATE OVER-CLEANING. 2019. hal-02474513

HAL Id: hal-02474513

<https://hal.science/hal-02474513>

Submitted on 21 Feb 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

THE VIRGINIA OIL SPILL IN PROVENCE: A TALE OF INAPPROPRIATE OVER-CLEANING

Charles-François Boudouresque¹, Aurélie Blanfuné¹, Gilles Martin², Michèle Perret-Boudouresque^{1*} and Isabelle Taupier-Letage¹

¹ Aix-Marseille University and Toulon University, Mediterranean Institute of Oceanography, CNRS, I - charles.boudouresque@univ-amu.fr

² Université Côte d'Azur, GREDEG CNRS, Nice, France

Abstract

The Virginia oil spill (October 2018) was a minor one: 600 m³ of fuel released. Oil was washed up on the coasts of Provence (France). Apart from the core area of the Port-Cros National Park, thanks to the timely intervention of its Scientific Council and its director, the rest of the area was extensively and disproportionately cleaned up, which aggravated the damage caused by oil pollution.

Keywords: *Pollution, Mediterranean Sea, Biodiversity, Petroleum, Supralittoral*

For the public at large, oil spills are one of the most serious forms of impact of man on the marine environment. Several major oil spills (up to several thousand tonnes of oil released) have marked our memories, e.g. Torrey Canyon (1967), Amoco Cadiz (1978), Exxon Valdez (1989), Haven (1991), Erika (1999), Prestige (2002) and Deepwater Horizon (2010). Despite their spectacular appearance, oil spills are not the most worrying kind of impact on the marine environment, especially in the Mediterranean. Overfishing, biological invasions, coastal urbanization and the destruction of the dune-beach-banquette ecosystem constitute far more serious threats [1]. In addition, oil spills may cause grave environmental damage, but the cleaning of beaches and rocky shores usually greatly increases the impact on ecosystems, turning a short-term into a long-term impact [2-3].

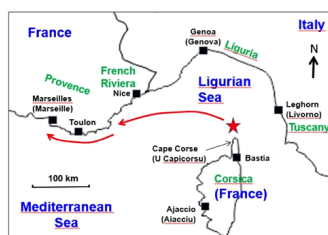


Fig. 1. The north-western Mediterranean Sea. Star: the site of the collision between the Ulysse and the CSL Virginia. Arrows: schematic pathway of the oil slicks towards eastern Provence, then western Provence.

On October 7th, 2018, the ro-ro ferry Ulysse collided with the containership CSL Virginia, anchored 28 km north-west of the Cape Corse (Corsica) (Fig. 1). Some 600 m³ of fuel leaked out from the fuel tanks of the Virginia. Between the 8th and the 15th of October, spill response vessels recovered over 1 000 m³ of oily water. Strong winds, blowing westwards, pushed oil sticks towards the coasts of Provence, where the Northern Current carried them. On October 16th, oil began to wash up on the shores, in the form of tar balls and scattered patches (Fig. 1). Compared to the major oil spills mentioned above, the Virginia oil spill was of a very modest scale. Part of the areas fouled belongs to the core area (Archipelagos of Port-Cros and Porquerolles) or to the transitional area (Aire Maritime Adjacente) of the Port-Cros National Park (PCNP). The Scientific Council of the PCNP and its director issued (23rd October 2018) a warning against the risks, for the environment and the ecosystems, of an over-reaction and the use of heavy and intensive cleaning methods on the rocks and beaches; they recommended e.g. (i) no use of chemicals (e.g. dispersants); (ii) no hot water high pressure washing (HWHPW), with the exception of rocky areas accessible to pedestrians, close to the beaches; (iii) no cleaning in areas of high ecological sensitivity such as *Lithophyllum byssoides* rims; (iv) on beaches, taking care to remove as little sand as possible and leave as much wood as possible on the spot; (v) *Posidonia oceanica* banquettes of dead leaves should be preserved, with manual removal limited to surface layers exhibiting oil. Unfortunately, the French authorities followed the recommendations of the ships' insurers and entrusted to a private company, internationally

recognized for its competence, the task of removing all traces of oil. While the territory of the core area of the PCNP was relatively spared from disproportionate cleaning, thanks to the interventions of the Scientific Council and the PCNP's director, this was not the case for the rest of the area, which was intensively and disproportionately cleaned up, both in areas accessible to tourists in summer and in inaccessible areas. Rocks were stripped of the whole of the mediolittoral and supralittoral ecosystem (Cyanobacteria, lichens, *Littorina*, *Euraphia*, *Chthamalus*, *Patella*, etc.) via HWHPW, *P. oceanica* banquettes were totally removed, regardless of whether or not oil patches were present, etc. (Fig. 2). These banquettes are of paramount importance for coastal ecosystems and provide a wide range of ecosystem services. This clean-up operation considerably aggravated the damage caused by oil pollution. The interest of the insurers, objectively supported by local elected officials and media pressure, was to remove all visible traces of the oil spill, in order to limit claims for compensation for economic damage (loss of profit). A further aim of this cleaning strategy was to remove visible traces of pollution in order to avoid any request for compensation relating to the necessary monitoring of ecosystems after such an event. The result is that a very minor oil spill, occurring 9 months before the next tourist season, was transformed by the polluters themselves (via the insurers), by carrying out a disproportionately large-scale cleanup operation, into a major ecological damage, the natural restoration of which will take at least 10 years.

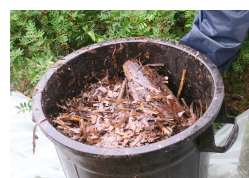


Fig. 2. The dead leaves of the *Posidonia oceanica* banquettes are removed, placed in a trash can and transported to a garbage dump. One of the authors (CFB) manually verified that these leaves, like those of the other trash cans transported on the day of the observation, did not contain any trace of oil.

References

- 1 - Boudouresque C.F., Blanfuné A., Fernandez C., Lejeune C., Pérez T. *et al.*, 2017. Marine Biodiversity - Warming vs. biological invasions and overfishing in the Mediterranean Sea: Take care, 'One train can hide another'. *MOJ Ecol. Environm. Sci.*, 2(4): 1-13.
- 2 - Broman D., Ganning B. and Lindblad C., 1983. Effects of high pressure, hot water shore cleaning after oil spills on shore ecosystems in the northern Baltic Proper. *Mar. Environ. Res.*, 10: 173-187.
- 3 - De la Huz R., Lastra M., Junoy J., Castellanos C. and Viéitez J.M., 2005. Biological impacts of oil pollution and cleaning in the intertidal zone of exposed sandy beaches: preliminary study of the Prestige oil spill. *Estuar., Coast. Shelf Sci.*, 65: 19-29.