

# Surface water exposure for the evaluation of Plant Protection Products to be used in urban area: the French case

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## Background and Issues

- European guidelines for the environmental risk assessment of Plant Protection Products (PPP) focus on agricultural uses.
- For the risk assessment of uses in urban areas: evaluation tools & procedures are developed at national level.
- In France:
  - ▶ evaluation procedures for use in urban areas are defined according to official categories of use that display similar "risk pattern"
  - ▶ first tier calculations are based on "worst-case" scenarii of exposure with Hardspec version 1.1 nov2008 (Hollis *et al.*, 2004 )
  - ▶ higher tier assessment are performed by changing some inputs leading to the restriction for the required uses

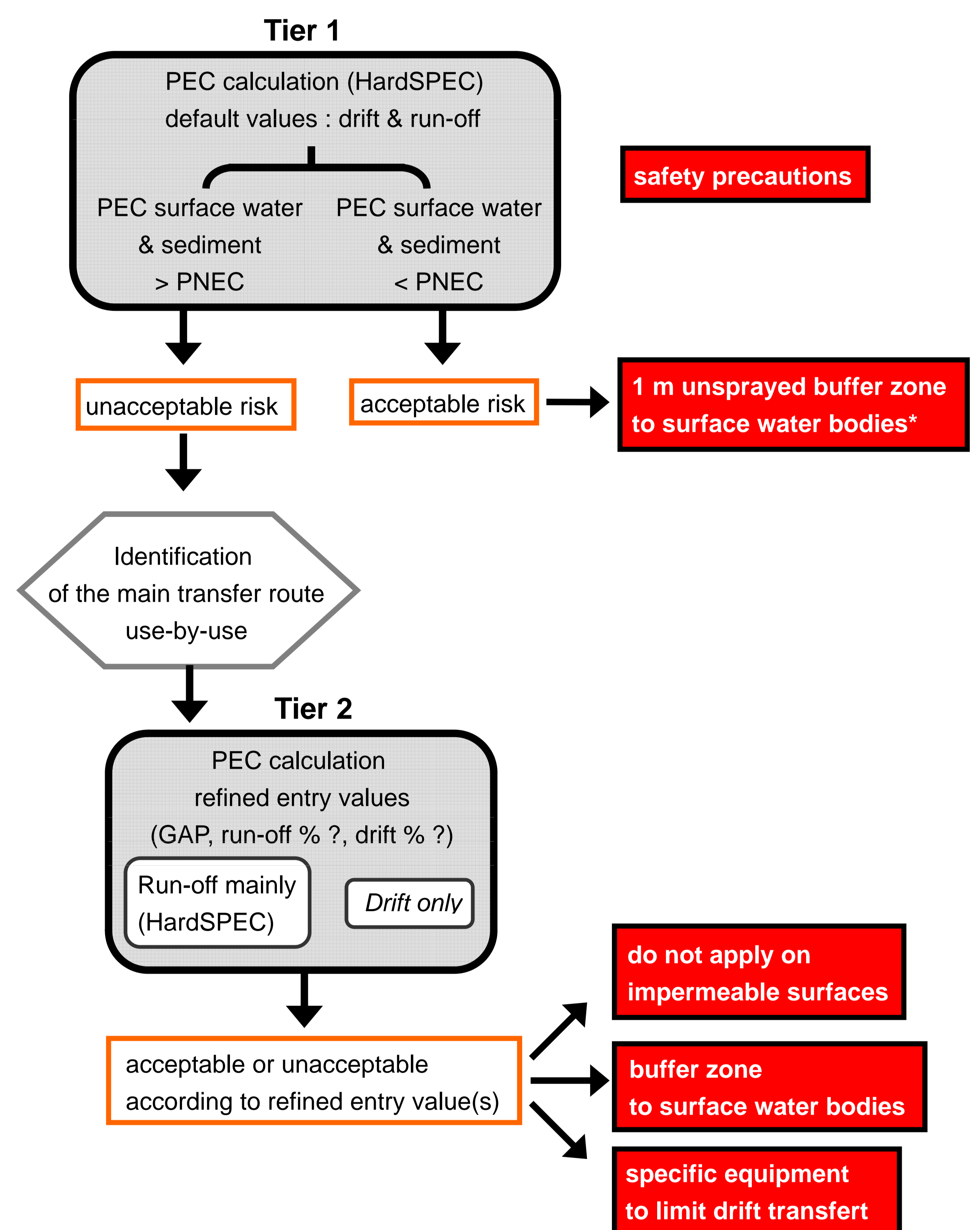
→ Limitations ? Needs ? Perspectives for future improvement ?

## French risk evaluation procedures for urban areas

Uses of Plant Protection Products in urban areas and related "risk patterns"

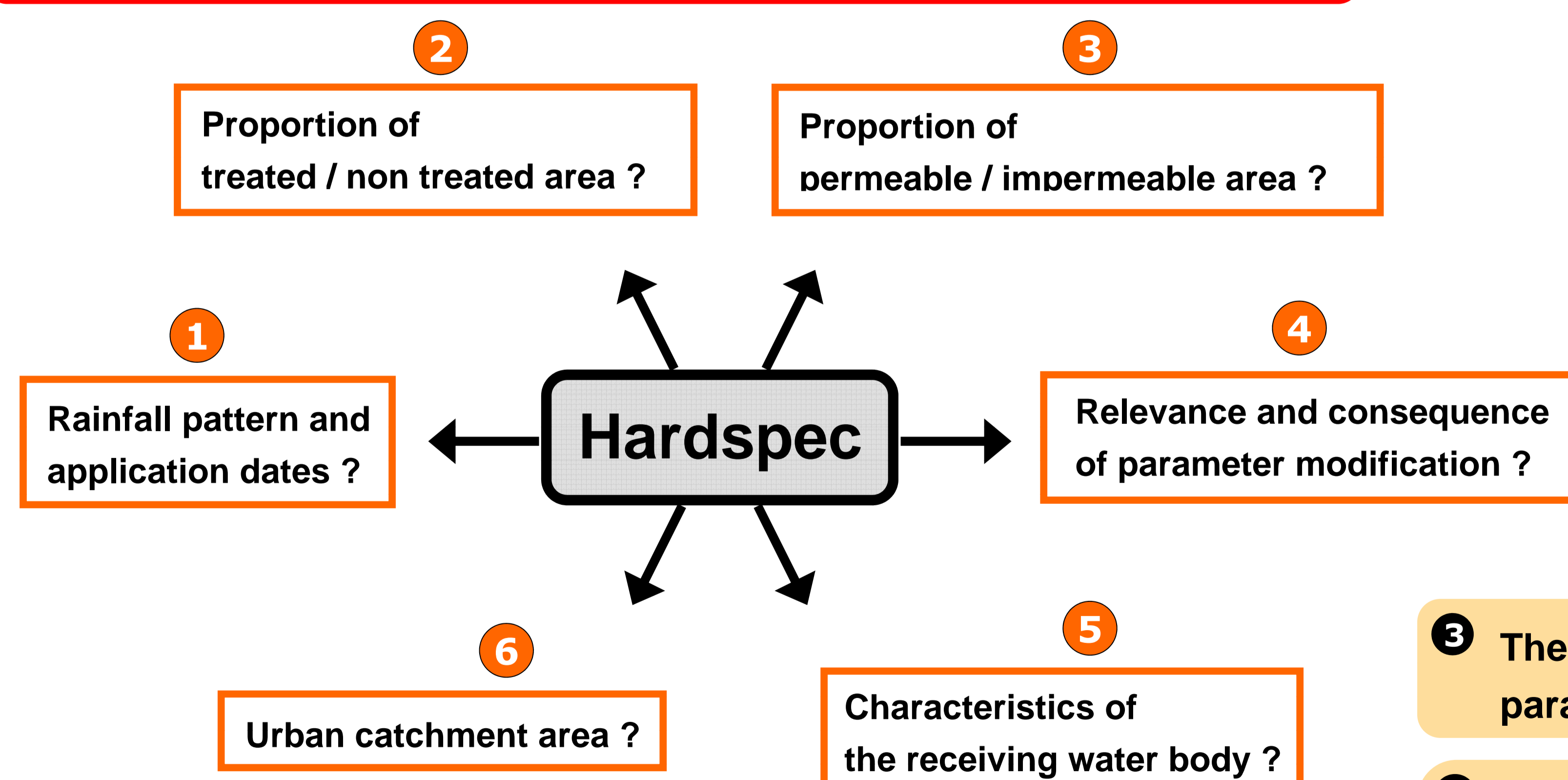
Uses (from the catalogue published by the Ministry of Agriculture)	Risk pattern		Evaluation tools
	Compartment at risk	Entry route into water bodies	
Weeding: pathway in public parks, sidewalk, road and graveyard	Surface water (stream, pond)	Spray drift Run-off	<ul style="list-style-type: none"> <li>▶ Hardspec Urban stream &amp; pond, Road</li> <li>▶ PECsw &amp; PECsed</li> </ul>
Weeding: tree and shrubs (ground plantation)	Soil	Spray drift	<ul style="list-style-type: none"> <li>▶ PECsoil (Focus)</li> </ul>
Weeding: flowers and clump-plants	Surface water (stream, pond)	Spray drift Run-off	<ul style="list-style-type: none"> <li>▶ Hardspec scénarii: Urban stream &amp; pond, Road</li> <li>▶ PECsw &amp; PECsed</li> </ul>
Fungicide and herbicide lawn treatment	Soil	Spray drift	<ul style="list-style-type: none"> <li>▶ PECsoil</li> </ul>
Undergrowth thinning	Surface water (stream, pond)	Run-off	<ul style="list-style-type: none"> <li>▶ PECsw &amp; PECsed</li> </ul>
	Ground water	Drainage	<ul style="list-style-type: none"> <li>▶ PECgw</li> </ul>
Weeding: industrial areas	Surface water (stream, pond)	Spray drift Run-off	<ul style="list-style-type: none"> <li>▶ PECsw &amp; PECsed</li> </ul>
	Ground water	(Drainage)	<ul style="list-style-type: none"> <li>▶ PECgw</li> </ul>

Example: decision tree for the risk assessment for surface water in case of the use "weeding: pathway in public parks, sidewalk, road and graveyards"



- high diversity of environmental conditions and characteristics of use
- lack of scenarii and tools to account for realistic situations restricts the possibilities to achieve higher tier evaluation
- case by case evaluation for some uses

● suitability of the Hardspec scenarii to represent French urban environment ?



\* The minimal distance to surface water bodies where PPP application is forbidden is however fixed at 5 m. according to french regulation (decree 2006-06-12).

2 Tools and scenarii for the risk assessment of PPP applied on semi-permeable surfaces are needed.

3 The relevance and the consequences of a change in Hardspec parameters need to be defined and quantified.

4 Perspective: a sensitivity analysis and a validation study could be performed on the dataset of two studies conducted in the outskirts of Paris (Blanchoud *et al.*, 2004) and in a rural urban area (Collectif, 2005).

## Conclusion

- 1 The suitability of several Hardspec parameters to describe French urban situations needs to be verified: rainfall pattern, application dates, proportion of areas (treated vs non treated, impermeable vs permeable), area of the urban catchment and characteristics of the receiving water body.

## Bibliographie

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 Hollis JM, *et al.* (2003). HardSPEC: A First-tier Model for Estimating Surface- and Ground-Water Exposure resulting from Herbicides applied to Hard Surfaces. NSRI report No. SR3766E DEFRA PL0531, 79 pp