

# ➤ Enjeux socio-politiques autour de la mise en œuvre des SFN

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## ➤ Les sciences sociales et les SFN

- Normativité / aide à la mise en œuvre  
(Eggermont et al. 2015, Kabisch et al. 2016, Keesstra et al. 2018, Maes and Jacobs 2017, Nesshöver et al. 2017, Schaubroeck 2017, Thorslund et al. 2017, Van der Jagt et al. 2017)
- Manque de clarté articulation SFN avec d'autres concepts: ingénierie écologique, services écosystémiques, capital naturel, GI (Bridgewater et al. 2018, Escobedo et al. 2019, Krauze et Wagner 2019, Nesshöver et al. 2017)
- Histoire du concept (Bridgewater, 2018) ; définitions concurrentes des SFN (Eggermont et al. 2015)
- Analyse des discours / métaphores des SFN, Services Ecosystémiques et GI (Escobedo et al. 2019)
- Développer travaux en SHS pour clarifier le concept et éviter les « disservices » potentiels produits par leur mise en œuvre (Hanson et al. 2020, Kabish et al. 2016, Kotsila et Anguelovski 2020 , Nesshöver et al. 2017, Seddon et al. 2020)

# ➤ Enjeux autour des SFN

## Définition du concept

Généalogie scientifique / expertise

Articulation avec concepts associés

Quelle nature ?

## Institutionnalisation

Intégration dans les politiques publiques

Appropriation par les acteurs

## Mise en œuvre

Quelle gouvernance ?

Participation de la société civile / concertation

Hybridation avec d'autres instruments

Evaluation

# ➤ Un nouveau projet de recherche

## Les SFN : de la théorie à la pratique

### *Une comparaison France – Etats-Unis*

36 mois (2021-2023) / AgreenSkills

Coordination : INRAE (GESTE)

Partenaires scientifiques :

INRAE (GESTE / LESSEM)

ENGEEES

CNAM (GeF)

UC Berkeley (Coll. of Env. Design / Institute for International Studies)

Panel d'experts (scientifiques et opérationnels) – France / Etats-Unis

CNRS (GRH), INRAE (LISIS), Univ. De Tours (CITERES)

CEN, MTES (CGDD), OCP, PFE, UICN (Fce)

USACE, DWR (Gov of California), City of SF / Portland, ASFPM, AR, TNC, IUCN

# THEORY

# PRACTICE

## WP1

### Defining NbS Concept

France - US

Compile and analyze information on:

- Terms and definitions by different national, regional and local agencies/institutions, and nuance in relation to related concepts (e.g. green infrastructure)
- Integration of the concept into sectorial policies and institutions strategies
- Compare frameworks France-US

### Methods (same in France and the US)

- Quantitative
  - Bibliometric analysis of scientific grey literature on NbS
- Qualitative
  - Semi-structured interviews (NbS experts, scientists, administration)
  - Grey and scientific literature analysis

### Outcomes WP1 (Milestone 1)

- 1 Peer-reviewed article
- 1 Research report
- 1 PhD dissertation

## WP2

### How are NbS Projects Implemented

France - US

Compile and map NbS projects in France/US

In-dept analysis of 9 selected case studies:

- Field trips to visit the NbS projects
- Technical aspects of design and implem.
- Implementation divers and challenges
- Funding sources
- Governance and decision-making processes (top/downm bottom-up, actors involved)
- Social representation of NbS projects
- Compare NbS projects implementation approaches in France-US

### Methods (same in France and the US)

- Quantitative
  - Questionnaires (citizens concerned by the implemented NbS project)
- Qualitative
  - Semi-structured interviews (local project stakeholders and planners, local authorities)
  - Grey and scientific literature analysis
  - Focus groups

### Outcomes WP2 (Milestone 2)

- 1 Peer-reviewed article
- 1 Research report

## WP3

### How are NbS Projects Evaluated

France - US

In-dept analysis of 9 selected case studies:

- Approaches used to monitor the project
- Variables and metrics used to evaluate social and environmental effects of NbS projects
- Compare NbS projects evaluation approaches in France-US

### Methods (same in France and the US)

- Quantitative
  - Questionnaires (project planners and administrations)
- Qualitative
  - Semi-structured interviews (planners, local authorities, scientists, NGOs)
  - Grey and scientific literature analysis

### Outcomes WP3 (Milestone 3)

- 1 Peer-reviewed article
- 1 Research report

### Stakeholders involved in the project

- Policy makers and practitioners
- Education community
- Research community
- Civil society organizations and citizens

### Outcomes WP4 (Milestones 4)

- Written documents
  - 1 Book or peer-reviewed special issue
  - 2 Annual research reports
  - 1 Final synthesis report

- 1 Policy brief
- 1 Policy report
- 1 Leaflet
- 1 Poster
- 3 Newsletters

## WP6

### Coordination and management

#### Outcomes WP6 (Milestone 6)

- Monthly coordination meetings
- 4 Seminars (Consortium + Stakeholders)\*
- 2 Workshops (Consortium + Stakeholders)\*
- Research visits to French Lab
- Research visits to US Lab

## WP4

### Dissemination

#### Outcomes WP4 (Milestone 4)

- Conferences / Webinars
- Seminars\* / Workshops\*
- Website
  - 1 short video
  - 1 ArcGIS Story Map with NBS projects
  - Written documents

## WP5

### Experts Network

#### Outcomes WP5 (Milestone 5)

- Creation of an international Community of Practice (CP) on NBS



Consortium + Stakeholders + Community of Practice

- Creation of an International Associate Laboratory (IAL) between UC Berkeley-INRAE



## CITY / URBAN

### San Francisco California

San Francisco Creeks

Matt Kondolf  
Sarah Minick

Stormwater  
Flooding

NbS

Rain Gardens, Green Streets  
(bioswales), Green Plazas and  
Parking Lots, Floodwater Deten-  
tion and Retention Basins

Multi-Benefits  
Flood Risk Reduction,  
Recreation

### Portland Oregon

Willamette & Columbia  
Rivers

Anna Serra-Llobet  
Shannah Anderson

Stormwater & Riverine  
Flooding

NbS

Rain Gardens, Green Streets  
(bioswales), Green Plazas and  
Parking Lots, Floodwater Deten-  
tion and Retention Basins

Multi-Benefits  
Flood Risk Reduction,  
Recreation

### Strasbourg France

Rhine-III Rivers

Sara Fernandez  
Rémi Barbier

Stormwater & Riverine  
Flooding

NbS

Flood Retention Basins and  
River Restoration

Multi-Benefits  
Flood Risk Reduction,  
Biodiversity Preservation,  
Recreation

### Angers France

Maine River

Marie Fournier  
Mathieu Bonnefond

Stormwater & Riverine  
Flooding

NbS

Flood Retention Floodplains  
(Ile St Aubin an Balzac Park)

Multi-Benefits  
Flood Risk Reduction,  
Biodiversity Preservation  
Recreation, Agriculture

### Vall d'Allier France

Allier River

Freddy Rey  
Pierre Mossant

Riverine  
Flooding

NbS

Erosion Control, Sediment  
Recharge, River Restoration

Multi-Benefits  
Flood Risk Reduction,  
Biodiversity Preservation  
Recreation, Agriculture

## CATCHMENT / RURAL

### Yolo Bypass California

Sacramento River

Matt Kondolf  
Ricardo Pineda

Riverine  
Flooding

NbS

Flood Bypass,  
Wildlife Habitat Restoration

Multi-Benefits  
Flood risk reduction,  
Biodiversity preservation  
Recreation, Agriculture

### San Francisco Estuary California

SFBA Creeks

Anna Serra-Llobet  
Jessica Ludy

Coastal & Tidal  
Flooding

NbS

Marshes Restoration, Ecotone  
Horizontal Levees, Waterfront  
Parks

Multi-Benefits  
Flood risk reduction,  
Biodiversity preservation  
Recreation, Agriculture

### Brouage Marshes France

Adour River

Joana Guerrin  
Anna Serra-Llobet

Coastal, Tidal & Riverine  
Flooding

NbS

Coastal Marshes Restoration

Multi-Benefits  
Flood Risk Reduction,  
Biodiversity Preservation  
Recreation, Agriculture

### Camargue France

Rhône River

Joana Guerrin  
Freddy Rey

Coastal and Tidal  
Flooding

NbS

Levee Removal, Coastal  
Marshes Restoration

Multi-Benefits  
Flood Risk Reduction,  
Biodiversity Preservation  
Recreation, Agriculture

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