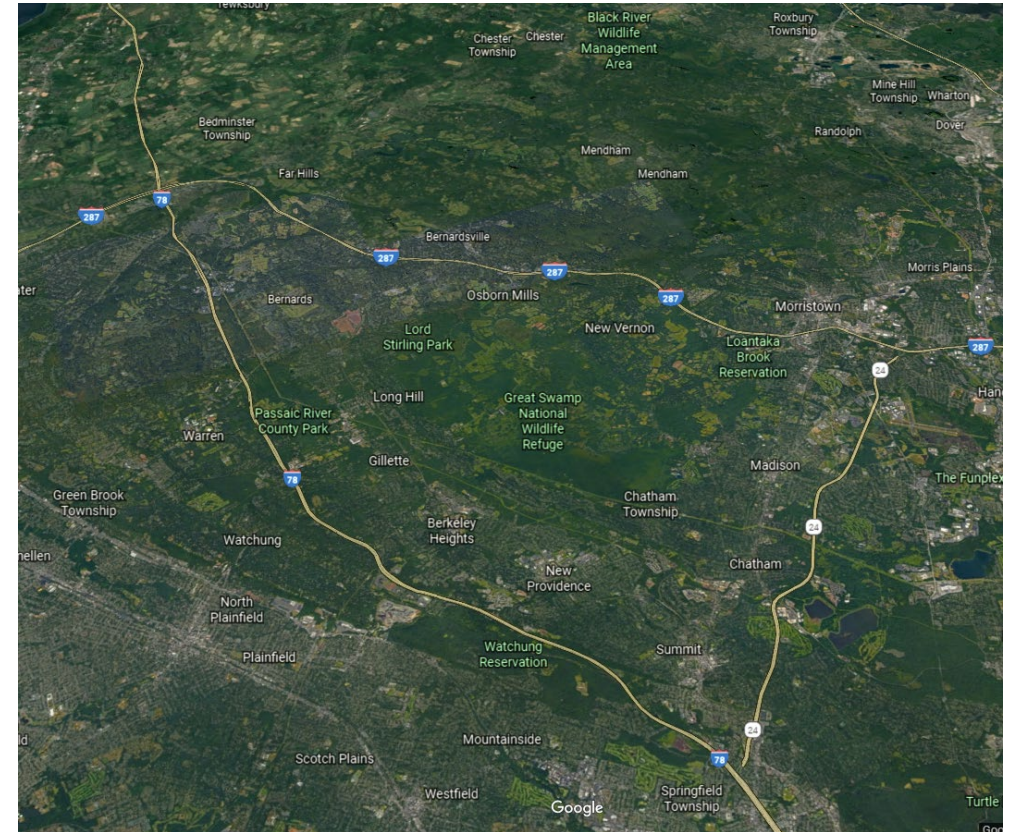


SUPERFUND BASICS

ROLLING KNOLLS LANDFILL SUPERFUND SITE

APRIL 11, 2019



AGENDA

- TASC Overview
- Site Background
- The Superfund Process
- Superfund Community Involvement



TASC OVERVIEW

TASC

- Technical Assistance Services for Communities (TASC)
- Provides non-advocacy, independent technical assistance
- This workshop is funded by EPA's TASC program – its contents do not necessarily reflect the policies, actions or positions of EPA





SITE BACKGROUND

BACKGROUND

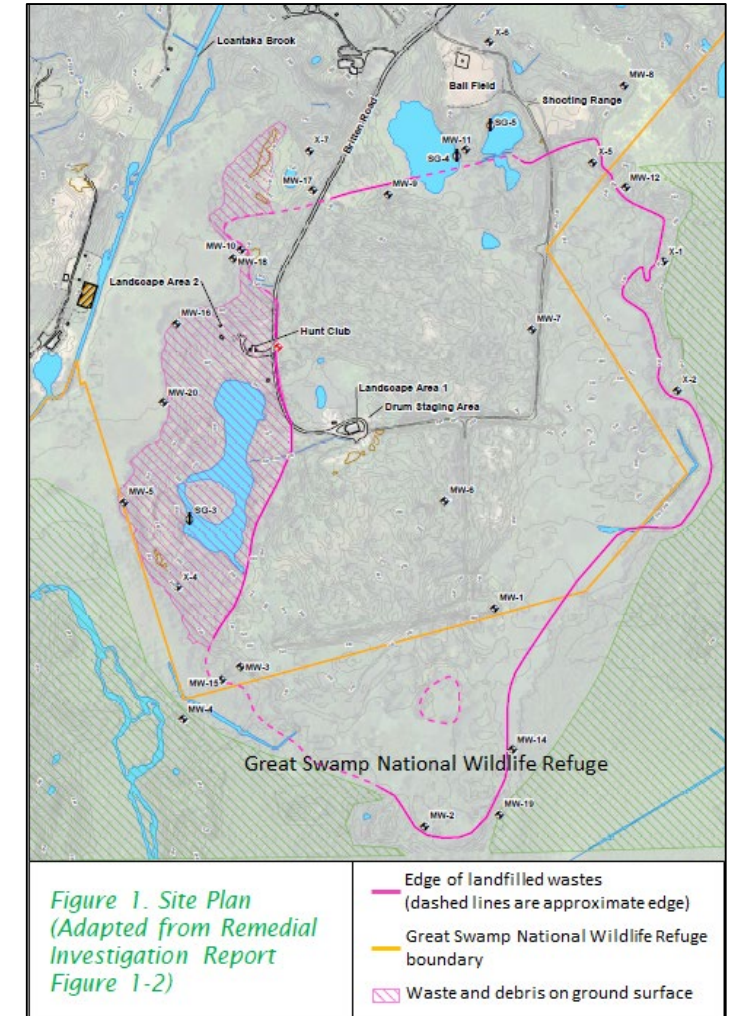
- Approximately 170-acre area used as unlined landfill for about 30 years
- The privately owned landfill closed in 1968
- Waste included household garbage, construction and demolition debris, industrial waste, septic waste and scrap metal – up to 18 feet deep
- Media being investigated: soil, sediment, surface water and groundwater
- Part of the landfill (approximately 30 acres) is located in the Great Swamp National Wildlife Refuge.



BACKGROUND

- Site contaminants are:
 - Metals
 - Polychlorinated biphenyls (PCBs)
 - Pesticides
 - Polycyclic aromatic hydrocarbons (PAHs)
 - Volatile organic compounds (VOCs)
- Site placed on the Superfund National Priorities List (NPL) in September 2003
- EPA is investigating the site and will issue a cleanup plan

Human
health
risk
driver



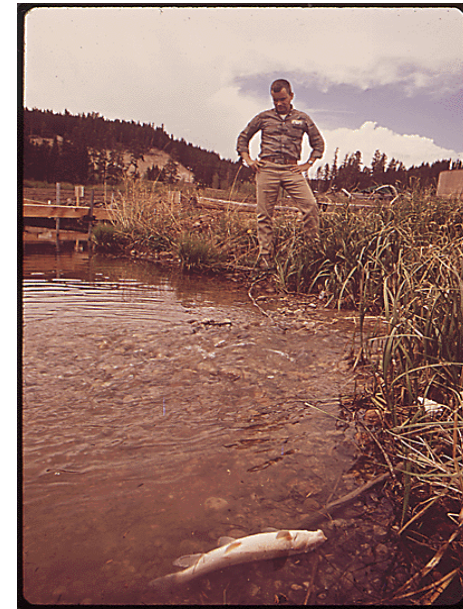


THE SUPERFUND PROCESS

SUPERFUND

CERCLA (Superfund)

- Comprehensive Environmental Response, Compensation, and Liability Act, as amended
- A law passed in 1980 by Congress to address the dangers of abandoned or uncontrolled hazardous waste dumps by developing a nationwide program for:
 - Emergency response
 - Information gathering and analysis
 - Liability for responsible parties
 - Site cleanup



Historical
images
from
<https://www.epa.gov/history/historical-photos-and-images>.

GOALS OF SUPERFUND

- Protecting human health and the environment by cleaning up sites contaminated with hazardous substances
- Making responsible parties pay for work performed at Superfund sites
- Involving communities in the Superfund process
- Supporting the return of sites to productive use

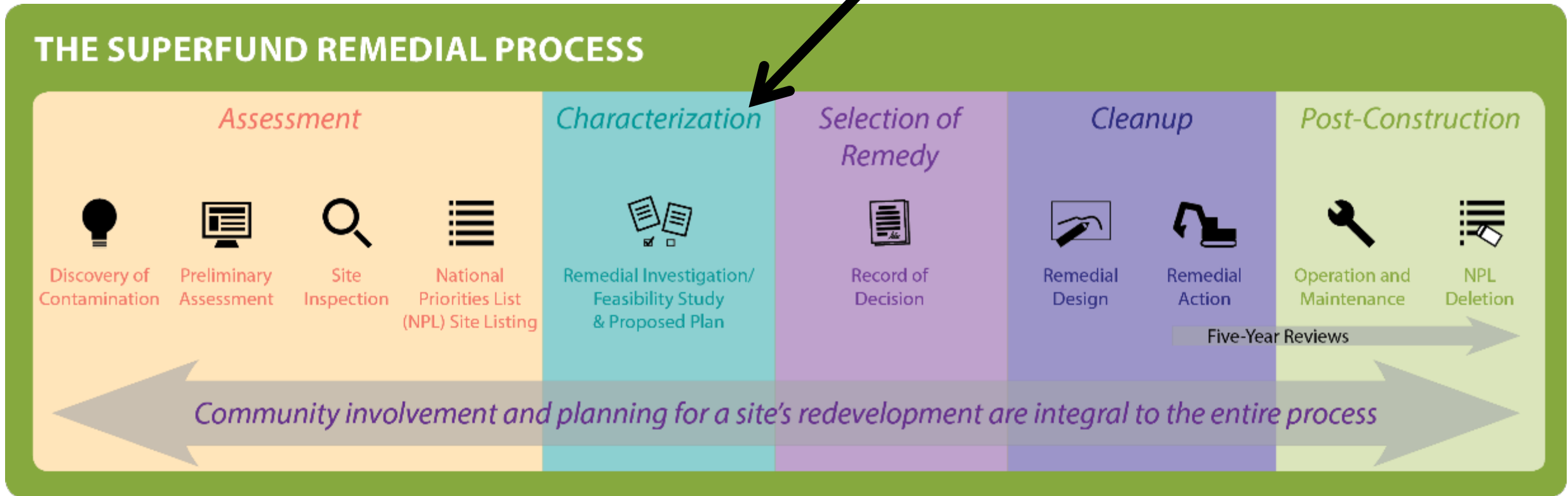


LIMITATIONS OF SUPERFUND

- Limited to cleanup of hazardous substances and pollutants, such as
 - Polychlorinated biphenyls (PCBs)
 - Lead
 - Asbestos
 - Other toxic compounds
- Limited to cleanup of sites with unacceptable risks
 - To human health
 - To the environment

THE SUPERFUND REMEDIAL PROCESS

You are here



Notes: Removal actions can occur at any time and simultaneously. Reuse can occur at any time if human health and environment are protected

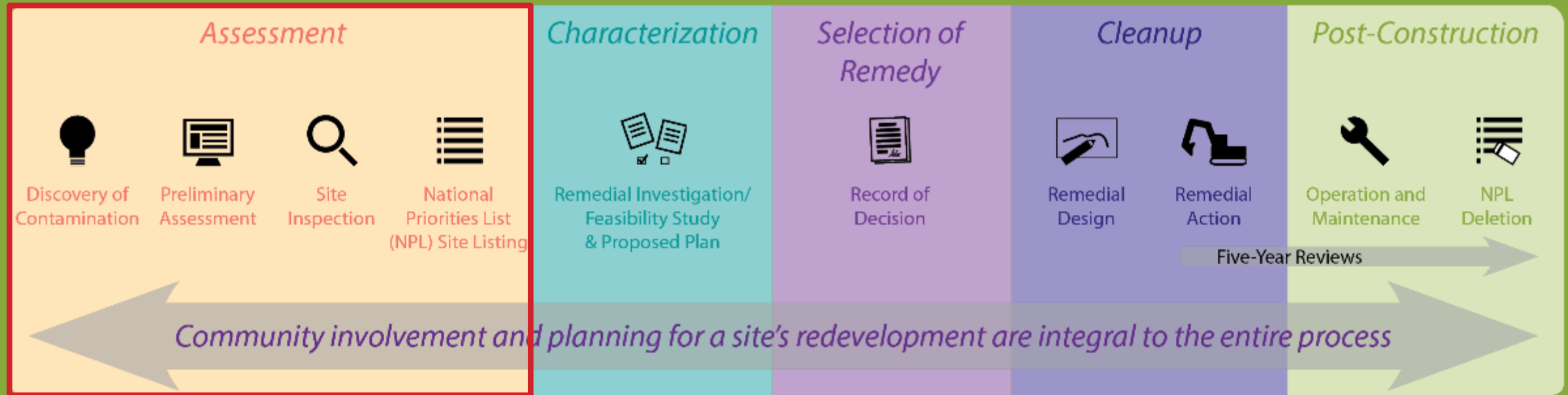
COMMUNITY INVOLVEMENT

- Communities have a voice during all stages
- EPA provides communities with:
 - Educational materials
 - Outreach activities
 - Site information
 - Training
 - Technical assistance
 - Other support
- Required public comment periods occur after:
 - Site's NPL listing is proposed
 - Site's Proposed Plan is published
 - Notice of Intent to Delete site from the NPL is published

ASSESSMENT

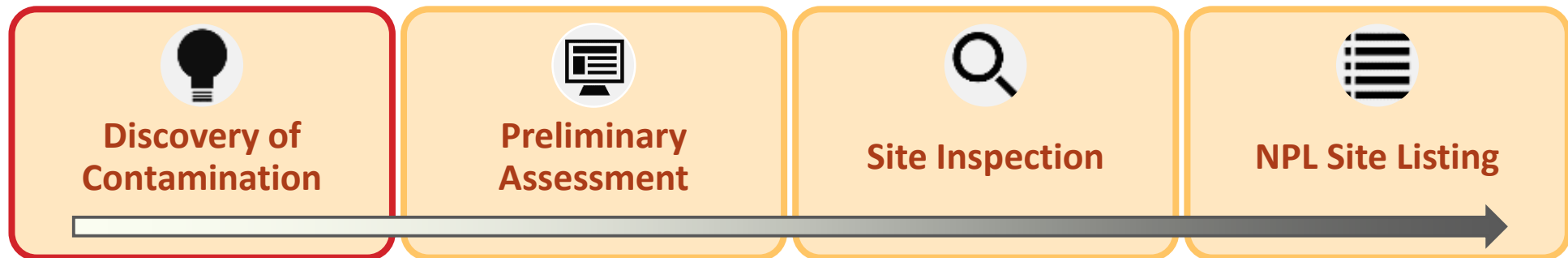
- What happens when a contaminated site is discovered?

THE SUPERFUND REMEDIAL PROCESS



DISCOVERY OF CONTAMINATION

- Superfund sites are “discovered” when **the presence of hazardous waste** is made known to EPA
- From the time a site is discovered, EPA tries to identify the **potentially responsible parties (PRPs)**
- **States and tribes** are involved in virtually every phase of cleanups



PRELIMINARY ASSESSMENT (PA)

- A **preliminary assessment** is limited in scope
- EPA looks at existing information and may interview nearby residents
- EPA uses this information to determine if a site requires further investigation



Discovery of
Contamination



Preliminary
Assessment



Site Inspection

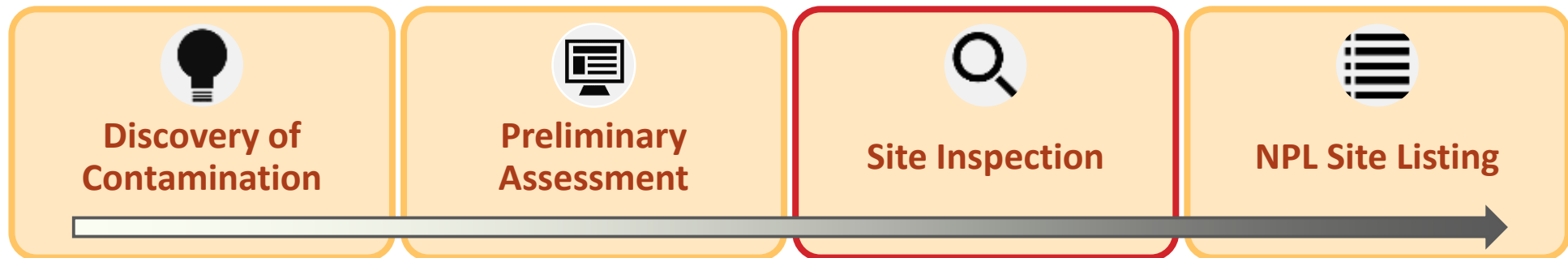


NPL Site Listing



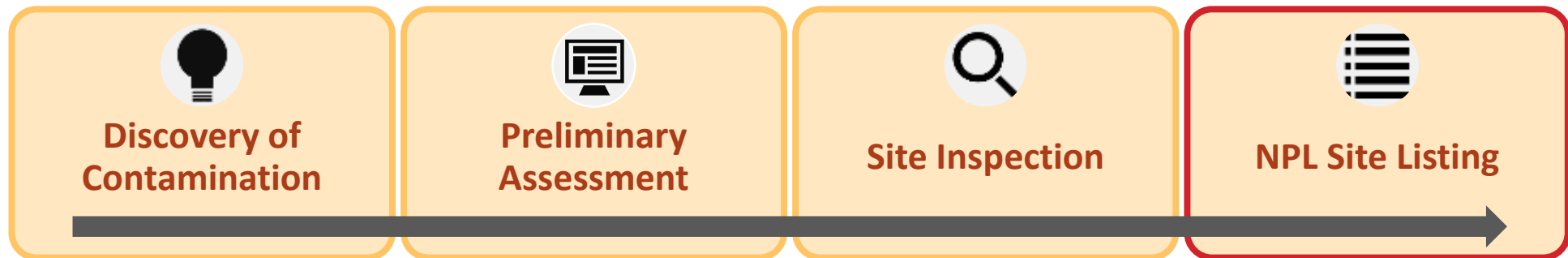
SITE INSPECTION (SI)

- A **site inspection** builds on information gathered during the preliminary assessment
- The site inspection may involve sampling at the site



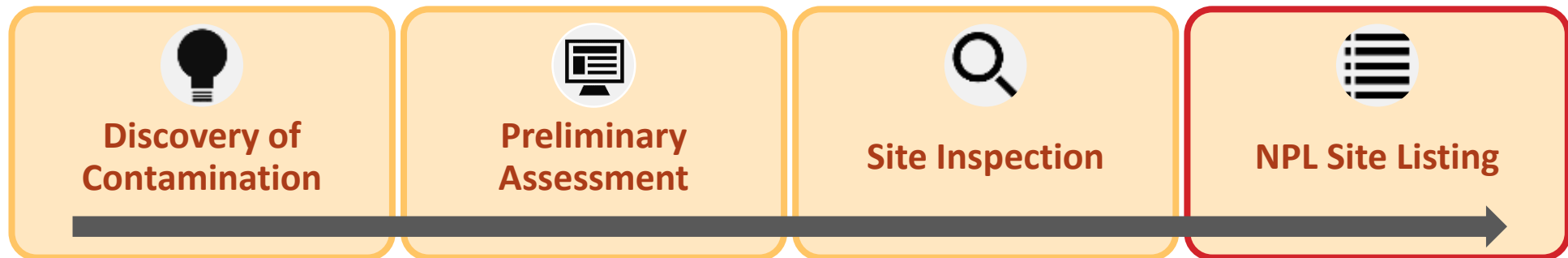
HAZARD RANKING SYSTEM (HRS)

- The HRS uses PA/SI data and compares that to a set of criteria to arrive at a numerical score between 0 and 100
- The criteria are:
 - Amount and toxicity of the contaminant
 - Potential for contamination to spread
 - Threat of soil exposure or migration to surface water, groundwater and air
 - Risk to human health and the environment



HAZARD RANKING SYSTEM

- Sites scoring at or above an established regulatory level are proposed for listing on the NPL
 - The proposed listing is published in the Federal Register
 - There is a 60-day public comment period



PUBLIC HEALTH ASSESSMENT

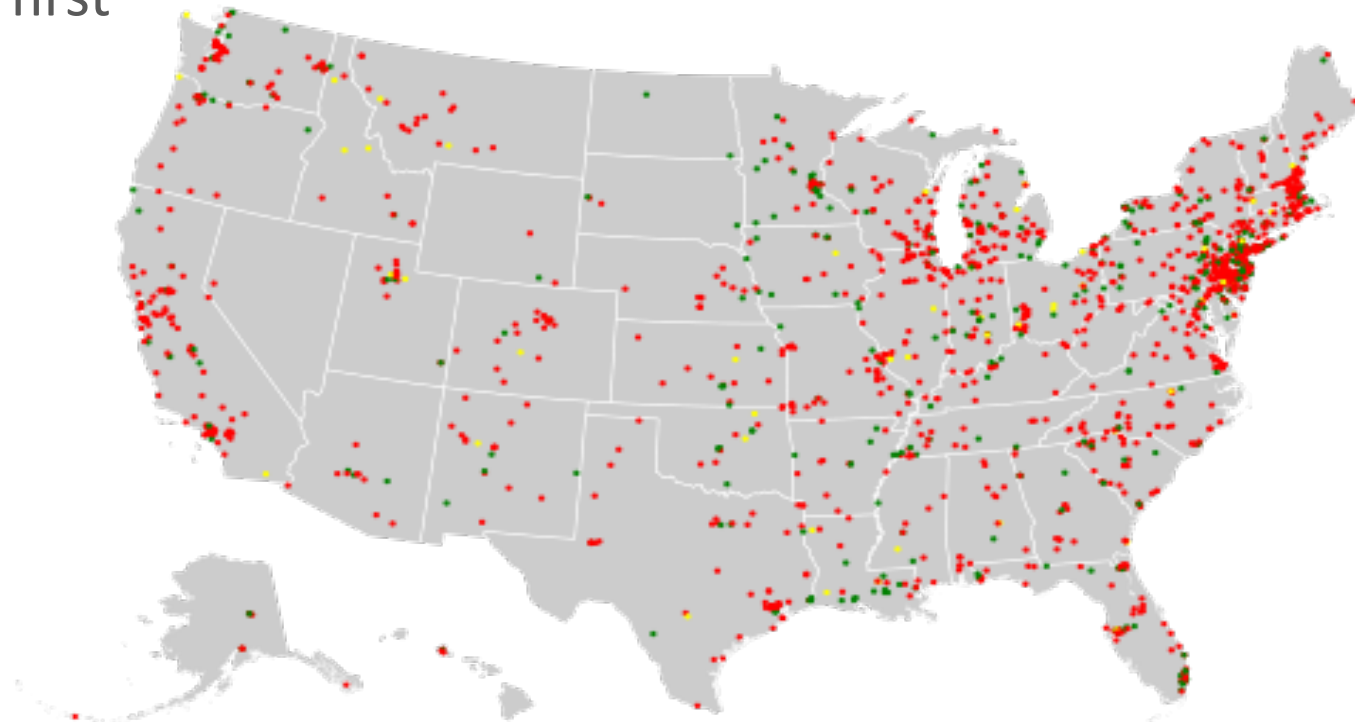
- Conducted by Agency for Toxic Substances and Disease Registry (ATSDR)
 - For every site on or proposed for the NPL
 - Evaluates:
 - Levels of hazardous substances and what levels might cause harm to people
 - Possible exposure pathways – breathing, eating, or skin contact
 - Whether working or living near the site might affect people's health
 - Other dangers, such as unsafe buildings, abandoned mine shafts, or other physical hazards.

ROLLING KNOLLS PUBLIC HEALTH ASSESSMENT

- July 2006
- Site posed **No Apparent Public Health Hazard**
 - No completed exposure pathways
 - A minimal risk from ingestion of contaminated soil by onsite workers and trespassers
- Contamination may present a public health concern if conditions or land use at the site change, resulting in potential future exposures
- Signs and fencing recommended
- Additional environmental data collection recommended

NATIONAL PRIORITIES LIST

- Once on the NPL, a site can receive Superfund money for cleanup
- The sites with the highest scores are not necessarily completed or funded first

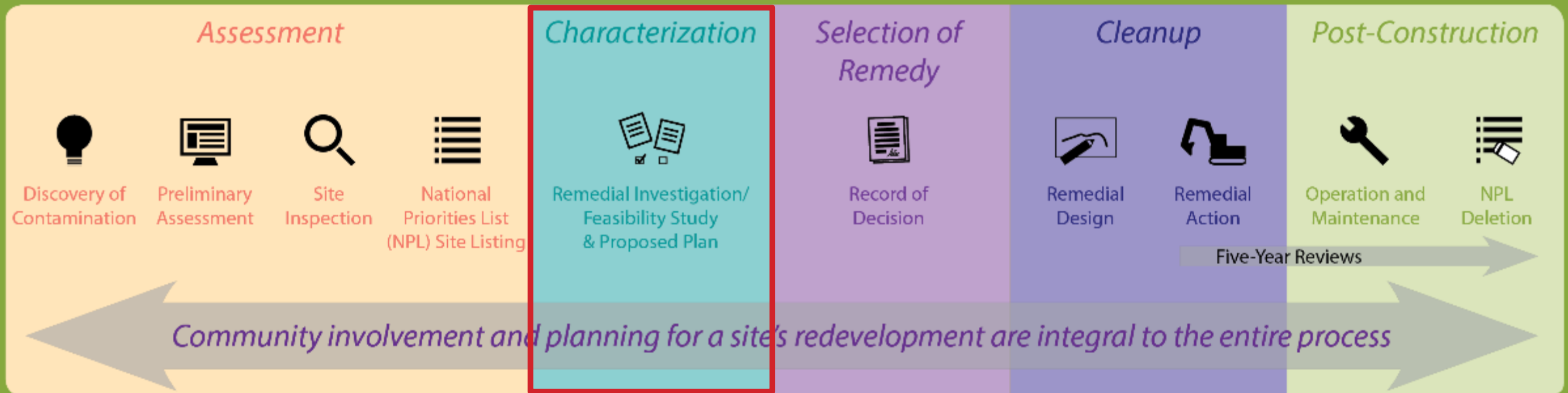


By skew-t (Own work) [CC BY-SA 3.0](https://creativecommons.org/licenses/by-sa/3.0/), via Wikimedia Commons

CHARACTERIZATION

- How much contamination is there? How do we clean it up?

THE SUPERFUND REMEDIAL PROCESS



REMEDIAL INVESTIGATION (RI)

- The goal of the **remedial investigation** is to determine the extent of contamination and potential risks
 - It includes sampling of soil, surface water, groundwater and waste from locations across the site and near site boundaries
 - It assesses human health and ecological risks posed by the site



Remedial Investigation/Feasibility Study & Proposed Plan



WHAT IS RISK ASSESSMENT?

- Science-based site-specific estimate of the human health and/or ecological risk due to exposure to site contaminants
- Estimates **current and possible future risks**, if no cleanup actions taken
- Helps EPA select the best cleanup strategies to **manage risks to acceptable levels**

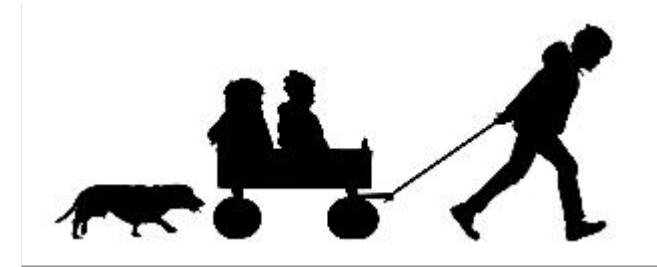
RISK HAPPENS WHEN ...



1. Contaminants exist
2. Concentrations are high enough



3. There is an exposure pathway



4. There are receptors (people, animals, a sensitive ecosystem)

FEASIBILITY STUDY (FS)

- The analysis of potential treatment methods or “cleanup alternatives” is called a **feasibility study**
- The pros and cons of each cleanup method are explored in relation to nine required evaluation criteria
- Based on results of the feasibility study, EPA will develop a Proposed Plan for site cleanup



Remedial Investigation/Feasibility Study & Proposed Plan



NINE EVALUATION CRITERIA

1. Protection of human health and the environment
2. Compliance with state and federal requirements

Threshold Criteria

3. Long-term effectiveness and permanence
4. Reduction of toxicity, mobility or volume through treatment
5. Short-term effectiveness
6. Implementability
7. Cost

Balancing Criteria

8. State acceptance
9. Community acceptance

Modifying Criteria

PROPOSED PLAN

- EPA identifies the preferred remedy
- EPA gathers public input through a formal comment period
- EPA responds to comments received in a responsiveness summary



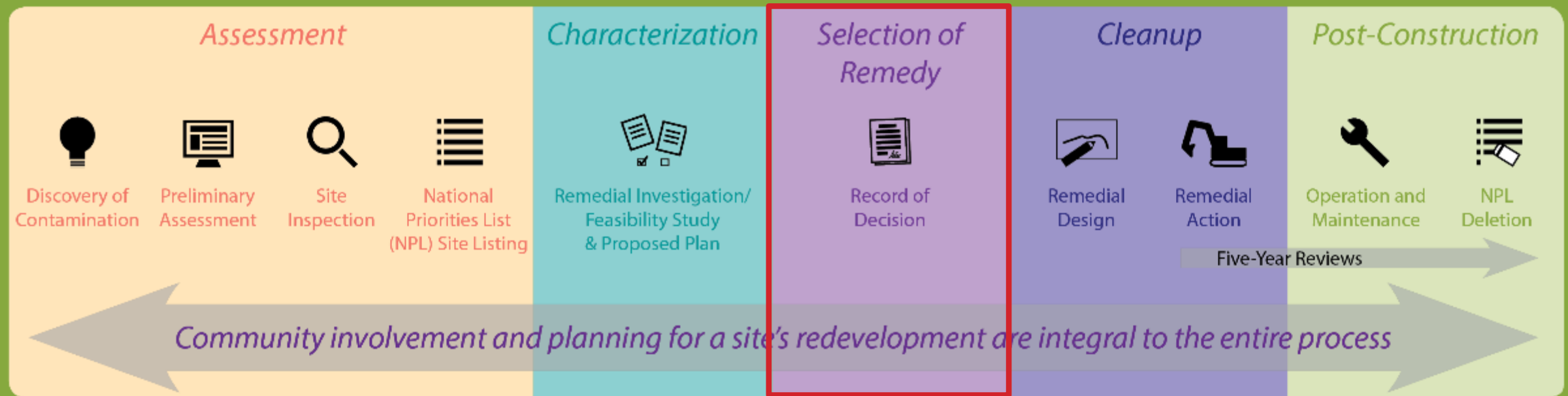
Remedial Investigation/Feasibility Study & Proposed Plan



SELECTION OF REMEDY

- What happens after evaluation of cleanup options and public comment?

THE SUPERFUND REMEDIAL PROCESS



RECORD OF DECISION (ROD)

- Legally binding decision document
- Outlines EPA's selected cleanup plan



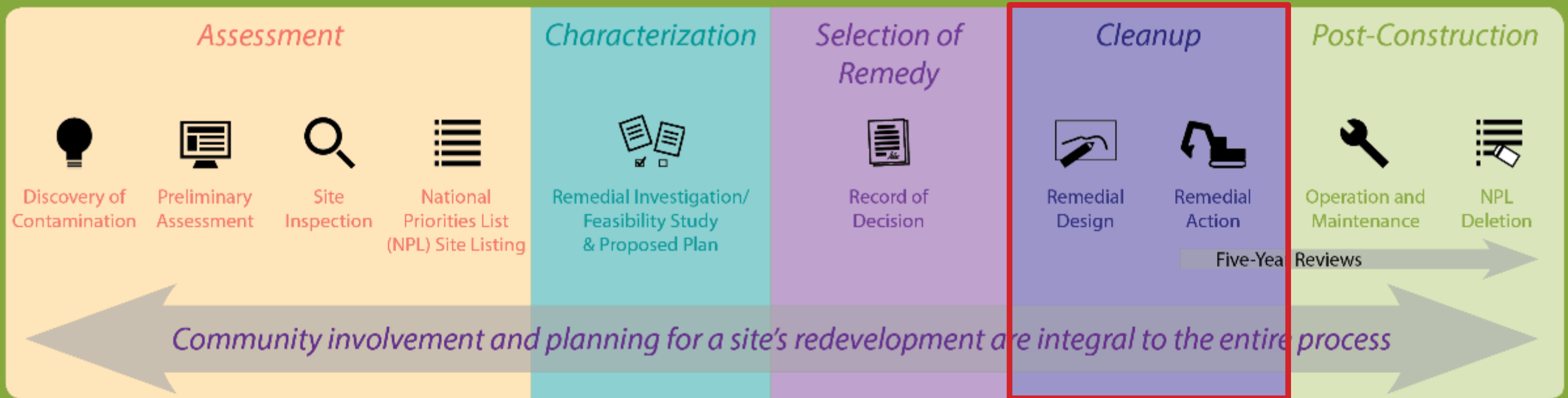
Record of Decision



CLEANUP

- What happens after remedy selection?

THE SUPERFUND REMEDIAL PROCESS



REMEDIAL DESIGN

- Detailed cleanup plans are developed during the **remedial design**
- The remedial design includes development of engineering drawings and specifications for site cleanup
- It may also include additional sampling



Source: EPA



Remedial Design



Remedial Action



REMEDIAL ACTION

- **Remedial action** follows the remedial design; it is the construction and implementation stage of site cleanup



Remedial Design



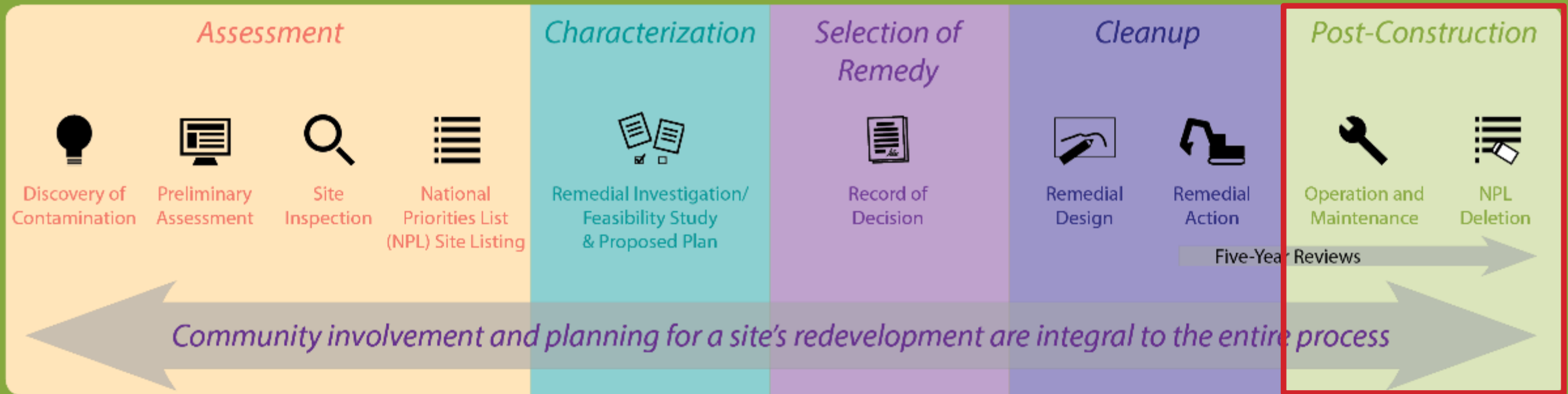
Remedial Action



POST-CONSTRUCTION

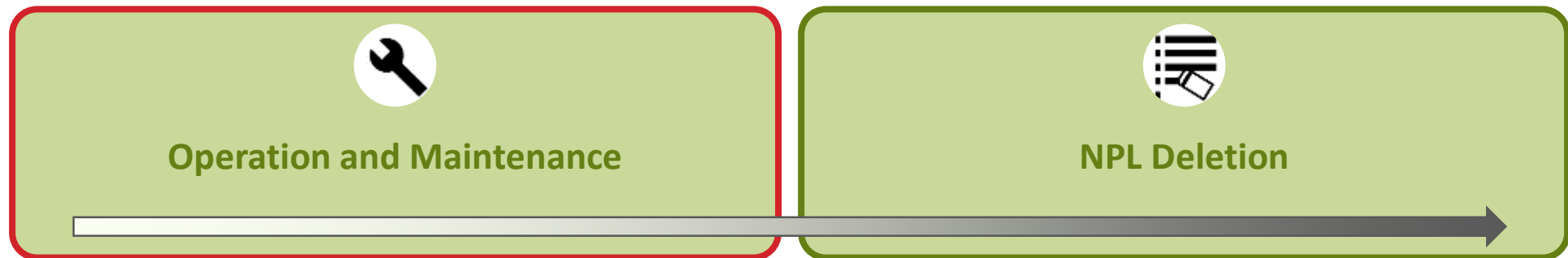
- What happens after cleanup?

THE SUPERFUND REMEDIAL PROCESS



OPERATION AND MAINTENANCE

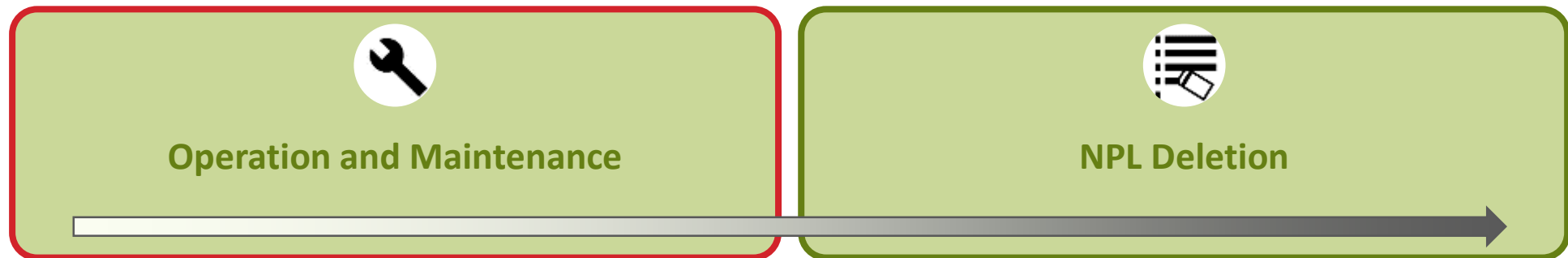
- Ensure that the cleanup actions will protect human health and the environment over the long term
- May include routine maintenance
 - Keeping signs and fences intact
 - Inspecting and maintaining soil covers



POST-CONSTRUCTION ACTIVITIES

- Institutional Controls

- Non-engineered instruments that help keep people from being exposed to contamination
- Examples include zoning restrictions to prevent residential use of land, local ordinances to prevent installation of drinking water wells, and deed notices to alert future owners of property restrictions such as not disturbing a soil cap



FIVE-YEAR REVIEWS

- Required when hazardous waste remains onsite
- Evaluates implementation and performance of a remedy to determine whether it remains effective
- A Five-Year Review may include:
 - Examining site data
 - Inspecting the site
 - Taking new samples
 - Talking with affected residents about site conditions, problems or concerns
- EPA must notify the community and other interested parties when a Five-Year Review will be conducted at a site



Post-Construction Completion

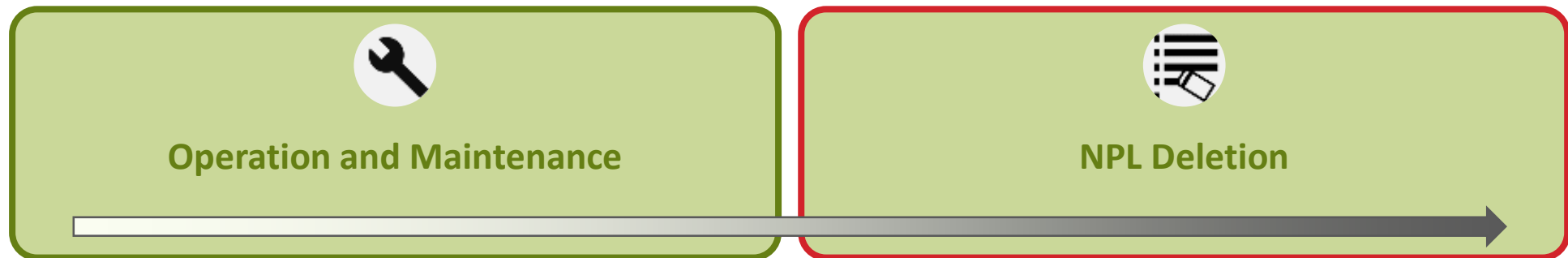


NPL Deletion



NPL DELETION

- Removal of the site from the priority list of Superfund sites
- EPA notifies the community of the availability of an “Intention to Delete” for comment
- EPA then accepts comments from the public on the information presented in the notice and issues a Responsiveness Summary to formally respond to public comments received
- If, after the formal comment period, the site still qualifies for deletion, EPA publishes a formal deletion notice





SUPERFUND COMMUNITY INVOLVEMENT

SUPERFUND COMMUNITY INVOLVEMENT



- People should have a say in decisions that affect their lives
- People have important information that can inform decision-making
- Community involvement results in better outcomes for everyone



www.epa.gov/superfund/superfund-community-involvement

SUPERFUND COMMUNITY INVOLVEMENT

- Attend public meetings
- Read site-related information
www.epa.gov/superfund/rolling-knolls
- Participate in the Community Advisory Group (CAG)
- Ask questions and provide input to EPA
- Provide comments during formal public comment periods
- Ask for technical assistance, if needed



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