



# EARLY ACTION AT THE LOWER DUWAMISH WATERWAY

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# Lower Duwamish Waterway Superfund Site



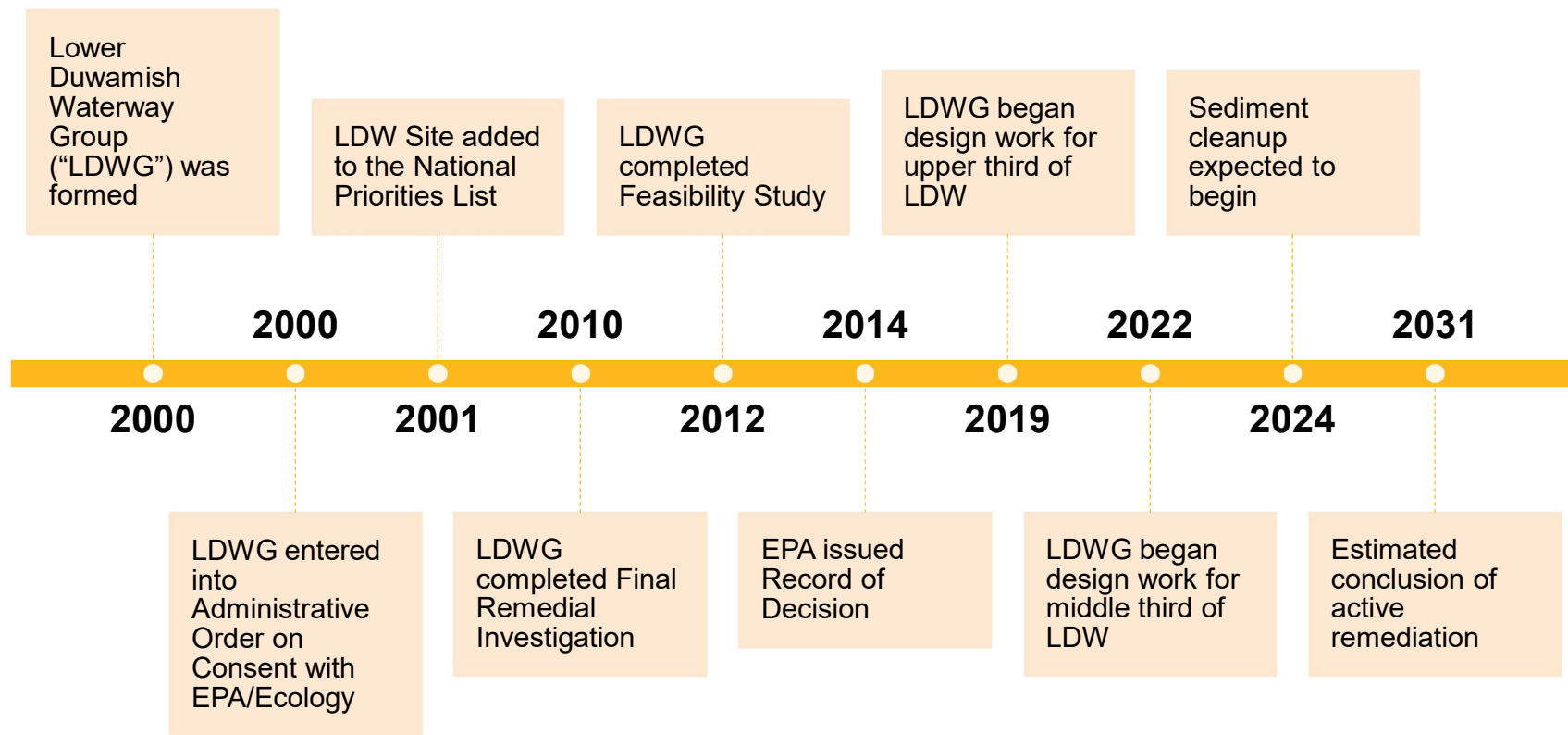
1. Background regarding LDW Site
2. Early Action Area (“EAA”) Cleanups
3. Boeing’s Plant 2 EAA Cleanup

# Lower Duwamish Waterway

- 5-mile stretch of waterway in Seattle
- Seattle's major industrial corridor since the early 1900s
- Legacy contamination from industrial discharges, CSOs, storm drains, etc.
- 43 contaminants of concern, including PCBs, arsenic, cPAHs, and dioxins/furans



# Cleanup Timeline



# EPA's Record of Decision

- Selected remedy for in-waterway portion of LDW Site
- Patchwork of remedial technologies
- Estimated 960,000 cubic yards to be dredged
- 412 acres total
- 177 acres of active cleanup
- Remedy construction to begin after:
  - Upland sources controlled
  - Remedy design work
  - Early cleanups completed



# Five Early Action Areas

- As part of the RI, LDWG identified 7 potential areas for early cleanup
- 5 of those were selected for early cleanup
  - Norfolk
  - Duwamish Diagonal
  - Slip 4
  - Terminal 117
  - Boeing Plant 2



# Early Action Areas: A Head Start

- All 5 Early Action Area (“EAA”) cleanups have been completed
  - Work performed between 1999 and 2015
  - No further active remediation anticipated in these areas
  - Long-term monitoring is ongoing
- Total of 29 acres
- Well over \$100M spent
- **Collectively, EAA cleanups reduced total PCB concentrations in surface sediments by half**



# Boeing Plant 2 History



- Plant 2 was a military production facility
- Construction began in 1936 with the government's order of the first "Flying Fortresses"
- Plant expanded over time to meet wartime needs
- Rapid increase in production throughout WWII
  - 6,981 B-17s built at Plant 2 during WWII
  - 362 planes per month as of March 1944



# Boeing Plant 2 EAA Cleanup

- Cleanup completed in 2015
- Three years of dredging
- 18.3 acres
- 163,000 cubic yards of sediment removed
- Also removed:
  - Bank soils
  - Over-water buildings
  - Hundreds of creosote-treated pilings



# Plant 2 Habitat Project

- Conversion of 1 mile of hardened shoreline at Plant 2
- Five acres of shoreline habitat for fish, birds, etc.
  - Off-channel habitat
  - Intertidal wetlands
  - 170,000 native plants



# Key Features of Cleanup

- Integrated cleanup work with habitat restoration to reduce project duration
- Adopted state-of-the-art dredging methods to prevent resuspension of contaminants
- Adopted noise and light control BMPs, which allowed work to occur 24/7
- Used barge and rail rather than trucks to minimize air emissions
- Engaged with the local community