



State of the Hanford Site

Richland – Seattle – Portland
March 16 March 29 March 31

Department of Energy

Richland Operations Office

Office of River Protection



U.S. DEPARTMENT OF
ENERGY

Richland
Operations Office

Office of River Protection



Hanford Site Cleanup

Office Of Environmental Management: A National Responsibility

- **We reduce risks and protect our workers, our communities and the environment through cleanup**
- **Our work is urgent and essential to the health and economic vitality of our communities and the nation and positions our Sites for future missions and use**
- **Our mission is not discretionary - it is a Federal obligation to address cleanup of the Cold War environmental legacy and honor our regulatory commitments**
- **Time is not on our side - costs and risks increase over time**
- **We have demonstrated value for the American Taxpayer by delivering significant progress in the past several years in reducing risks and the overall liability - but our work is not done**
- **The Environmental Management portfolio is one of our nation's largest liabilities - we have a responsibility to relieve future generations of this environmental and financial liability**



the 2015 Vision

Hanford Site Cleanup

**Hanford Site
Total Footprint
586 Sq. Mi.**

**Hanford Reach
National Monument
(~ 290 Sq. Mi.)**



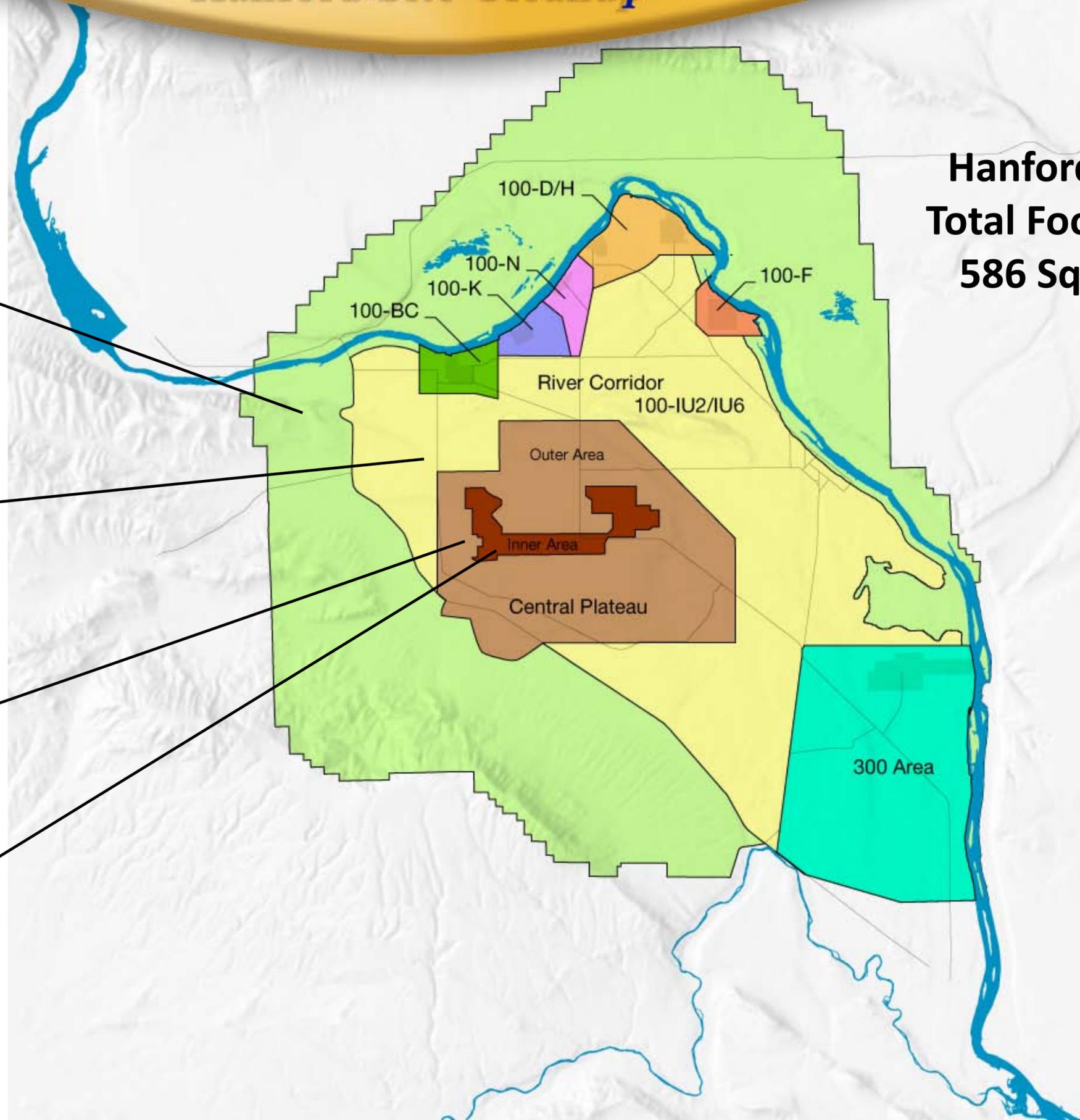
**River Corridor
(~ 220 Sq. Mi.)**



**Central Plateau
Outer Area
(~ 65 Sq. Mi.)**



**Central Plateau
Inner Area
(~ 10 Sq. Mi.)**



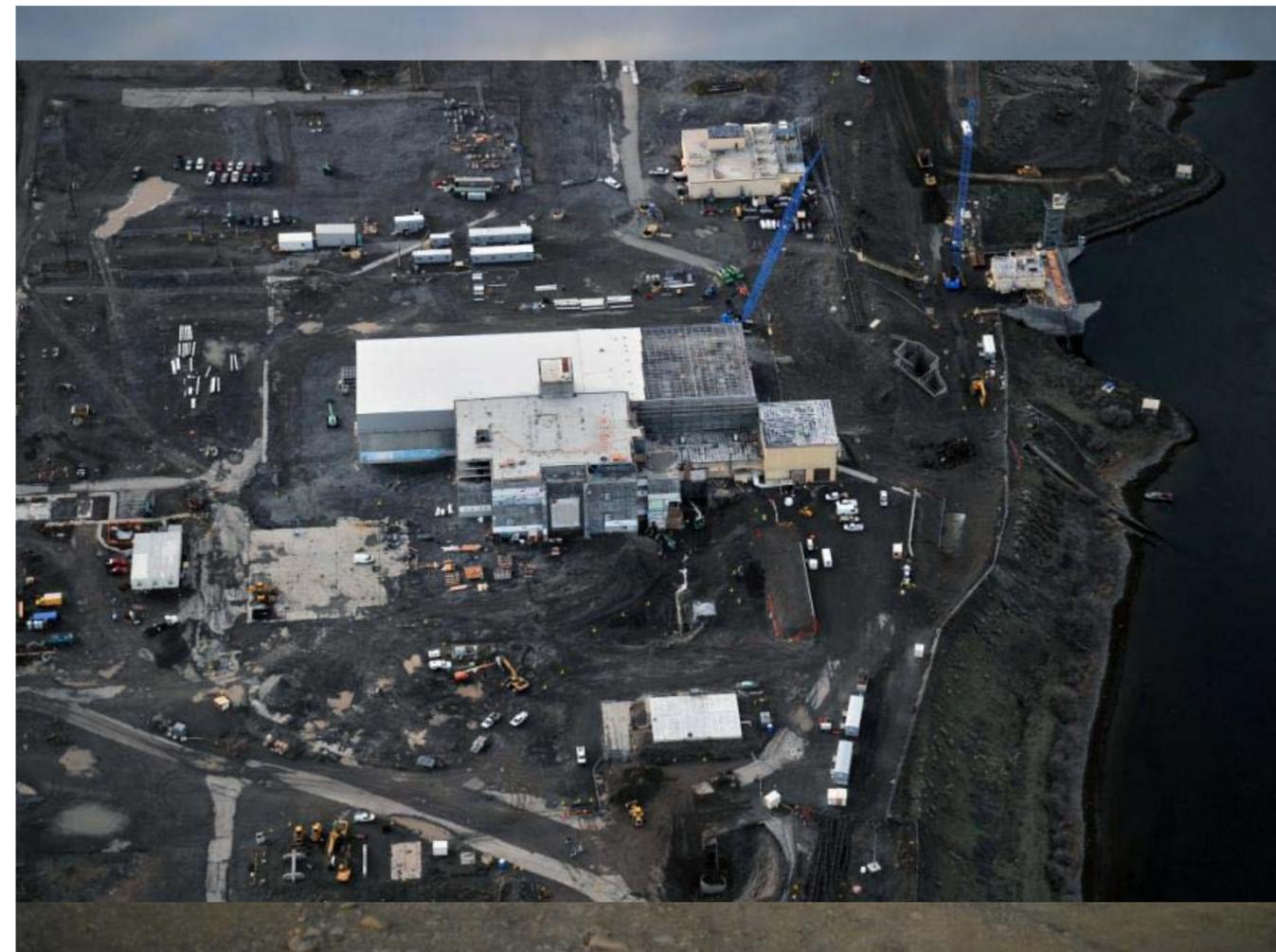


the 2015 Vision

Hanford Site Cleanup

River Corridor

- Reactors demolished, cocooned or dispositioned
Completed: **6** Goal: **10**
- Number of Hazard Category 2/3 nuclear facilities or waste sites demolished or remediated
Completed: **8** Goal: **20**
- Facilities demolished
Completed: **221** Goal: **522**
- Number of (highly contaminated) hot cells dispositioned
Completed: **9** Goal: **18**
- Waste sites remediated
Completed: **509** Goal: **798**
- Tons of waste removed, treated and disposed at ERDF
Completed: **10.3 M** Goal: **16.8 M**



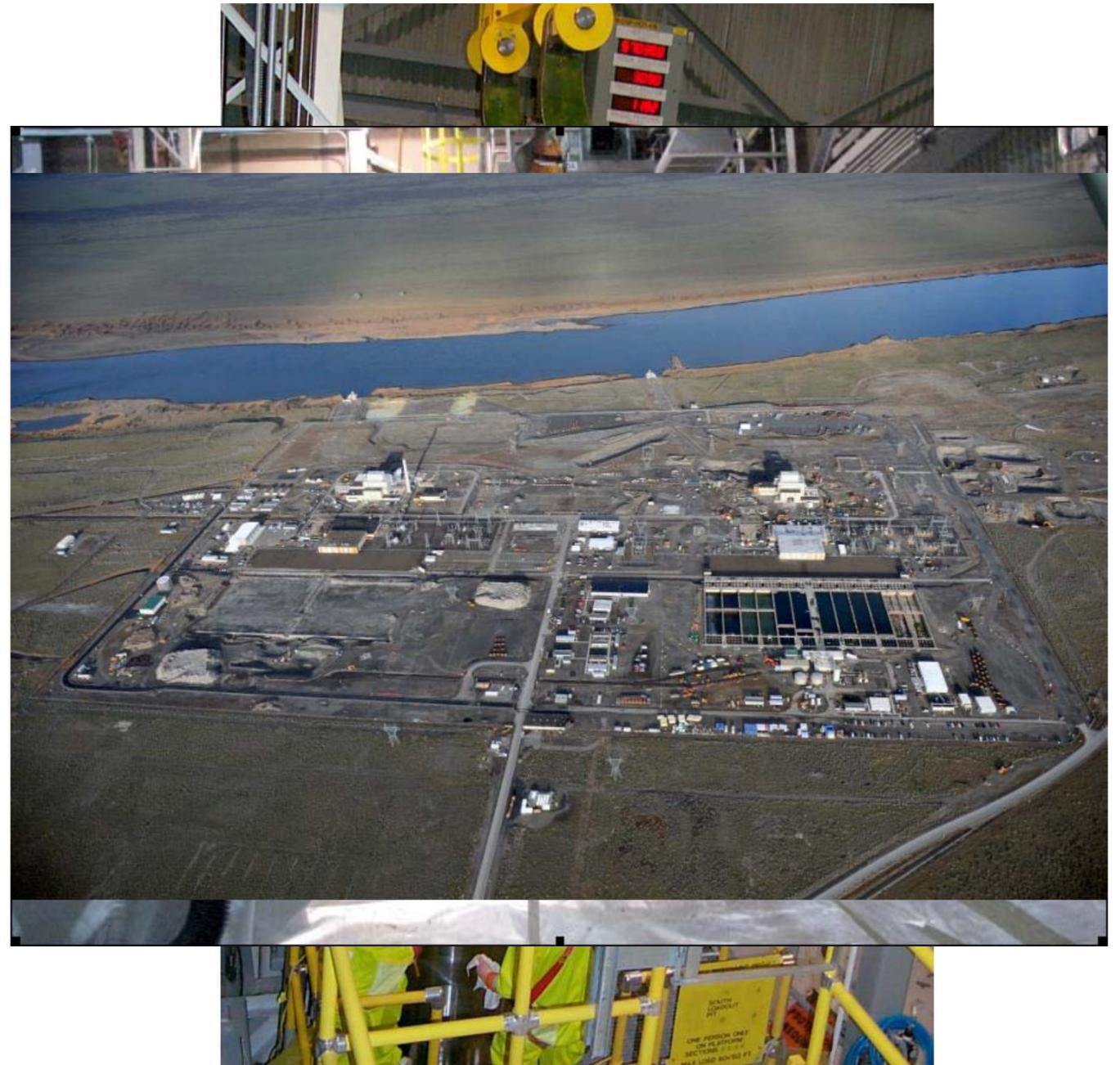


the 2015 Vision

Hanford Site Cleanup

K-Reactor Area

- ✓ Tons of spent nuclear fuel treated and transported
Completed: **2,300** Goal: **2,300**
- ✓ Square feet of K-East Basin demolished
Completed: **8,400** Goal: **8,400**
- ✓ Number of sludge settler tubes retrieved and sampled
Completed: **10** Goal: **10**
- ✓ Number of sludge engineered containers sampled and analyzed
Completed: **5** Goal: **5**
- Cubic meters of K-West sludge removed from the River Corridor
Completed: **0** Goal: **27**
- Number of liters of knock-out pot sludge sorted by size and density
Completed: **0** Goal: **150**
- Number of multi-canister overpacks shipped to the Canister Storage Building
Completed: **0** Goal: **9**





the 2015 Vision

Hanford Site Cleanup

Groundwater Protection

- River Corridor Treatment System Capacity
Completed: **1,600 gpm** Goal: **2,500 gpm** 
- River Corridor gallons of groundwater treated
Completed: **3.49 billion gallons**
- Central Plateau Treatment System Capacity
Completed: **400 gpm** Goal: **2,500 gpm** 
- Central Plateau gallons of groundwater treated
Completed: **1.56 billion gallons**





the 2015 Vision

Hanford Site Cleanup

Plutonium Finishing Plant

- ✓ Percent of planned Special Nuclear Materials shipped offsite
100% 
- ✓ Percent of planned slightly irradiated fuel shipped to the Canister Storage Building for safe guarding
100% 
- Number of glove boxes dispositioned
Completed: **110** Goal: **238** 
- Number of facilities demolished
Completed: **23** Goal: **46** 
- Feet of asbestos piping removed
Completed: **12,293** Goal: **24,000** 
- Feet of process vacuum piping removed
Completed: **546** Goal: **5,500** 
- Feet of process transfer lines removed
Completed: **268** Goal: **1,154** 
- Number of highly contaminated pencil tanks removed
Completed: **0** Goal: **196** 





the 2015 Vision

Hanford Site Cleanup

Cleanup Footprint Reduction

- National Monument square miles remediated
Completed: **143** Goal: **290** 
- River Corridor square miles remediated
Completed: **60** Goal: **220** 
- Outer Area square miles remediated
Completed: **0** Goal: **20** 
- Total square miles remediated by 2015
Completed: **203** Goal: **530** 





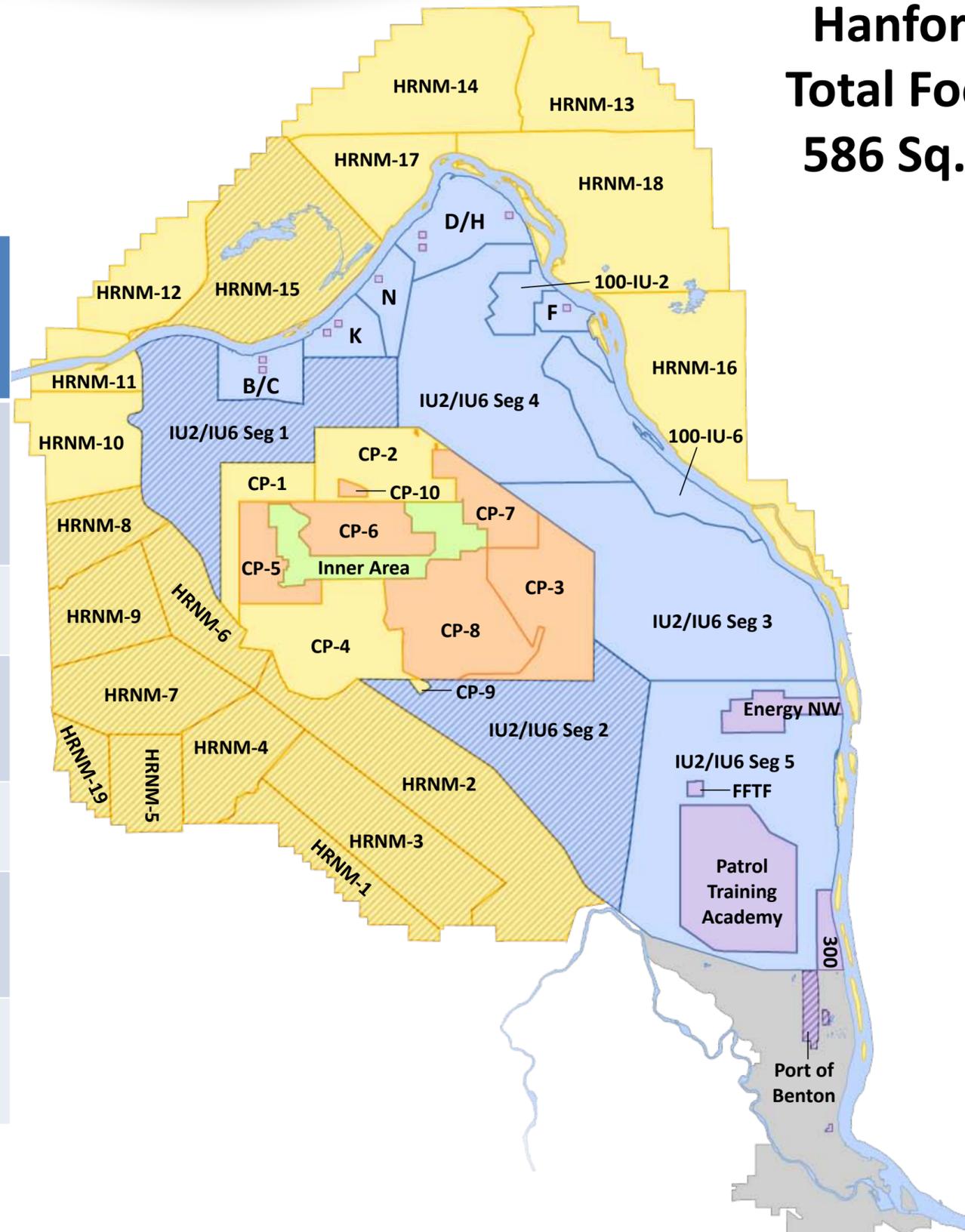
the 2015 Vision

Hanford Site Cleanup

Hanford Cleanup Footprint Reduction

Year	Square Miles Completed	% Footprint Reduction
Completed to Date		

**Hanford Site
Total Footprint
586 Sq. Miles**





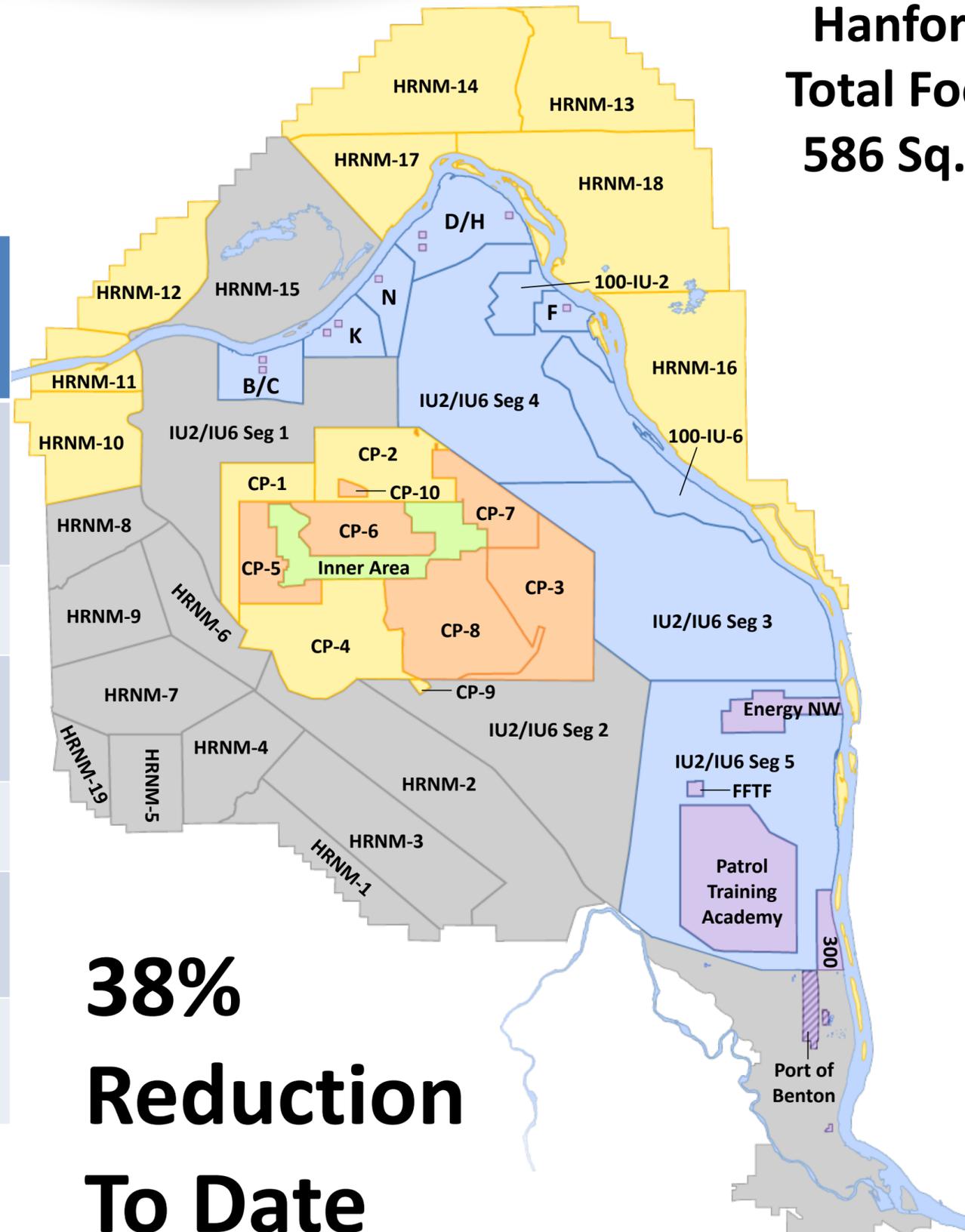
the 2015 Vision

Hanford Site Cleanup

Hanford Cleanup Footprint Reduction

Year	Square Miles Completed	% Footprint Reduction
Completed to Date	203	38%

**Hanford Site
Total Footprint
586 Sq. Miles**



**38%
Reduction
To Date**



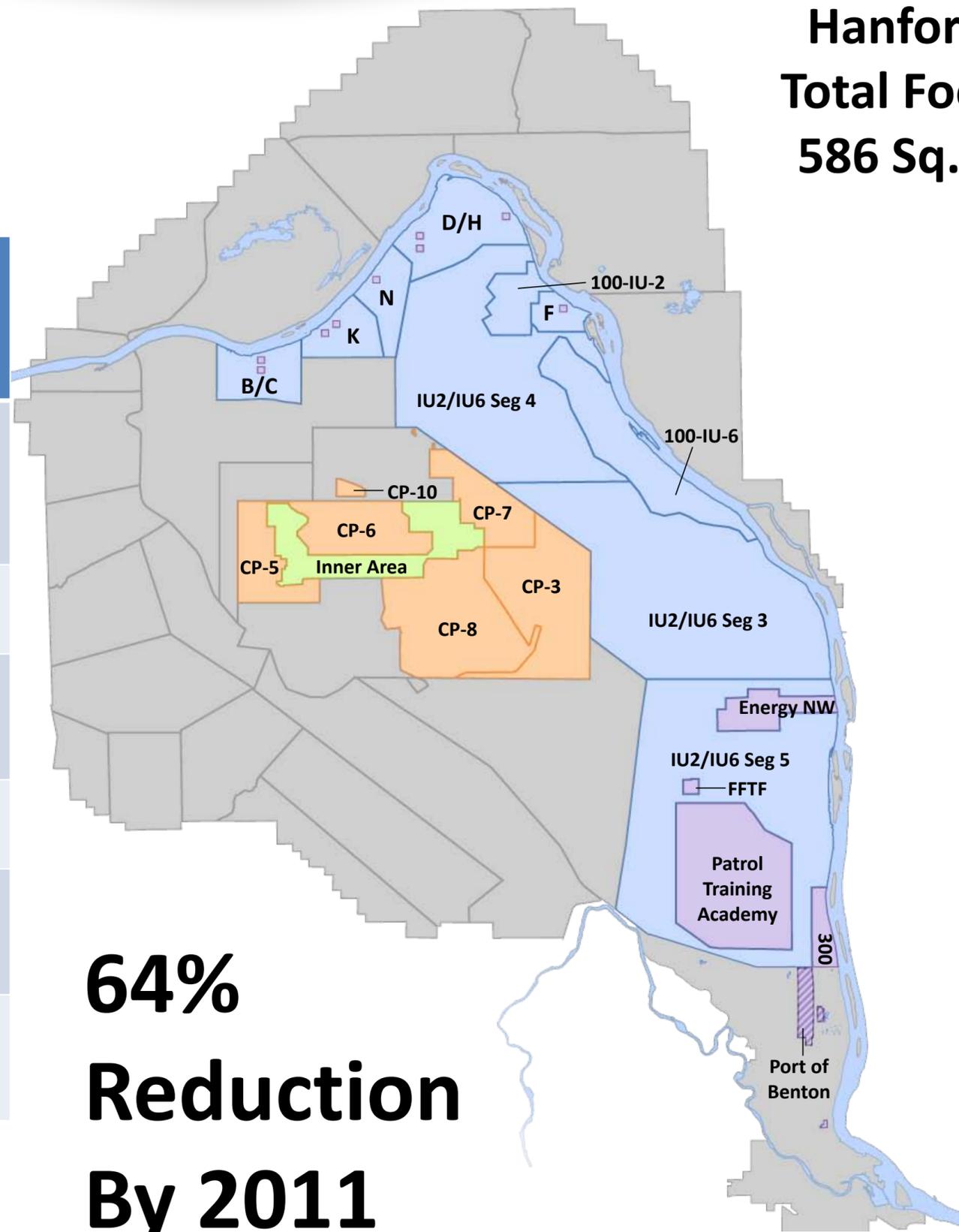
the 2015 Vision

Hanford Site Cleanup

Hanford Cleanup Footprint Reduction

Year	Square Miles Completed	% Footprint Reduction
Completed to Date	203	38%
2011 Goal	290	49%
2011 Projected	373	64%

**Hanford Site
Total Footprint
586 Sq. Miles**



**64%
Reduction
By 2011**



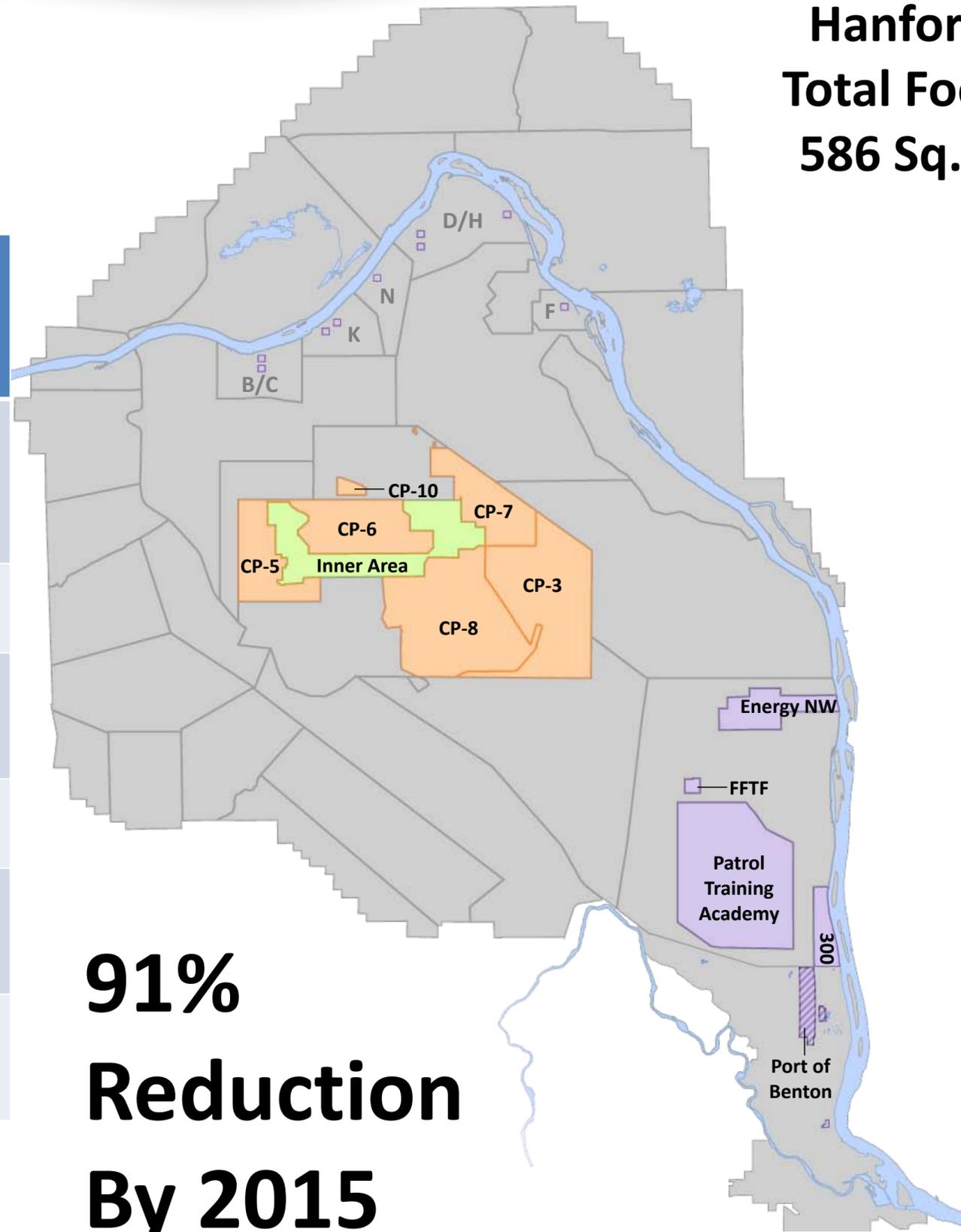
the 2015 Vision

Hanford Site Cleanup

Hanford Cleanup Footprint Reduction

Year	Square Miles Completed	% Footprint Reduction
Completed to Date	203	38%
2011 Goal	290	49%
2011 Projected	373	64%
2015 Goal	530	90%
2015 Projected	533	91%

**Hanford Site
Total Footprint
586 Sq. Miles**



**91%
Reduction
By 2015**



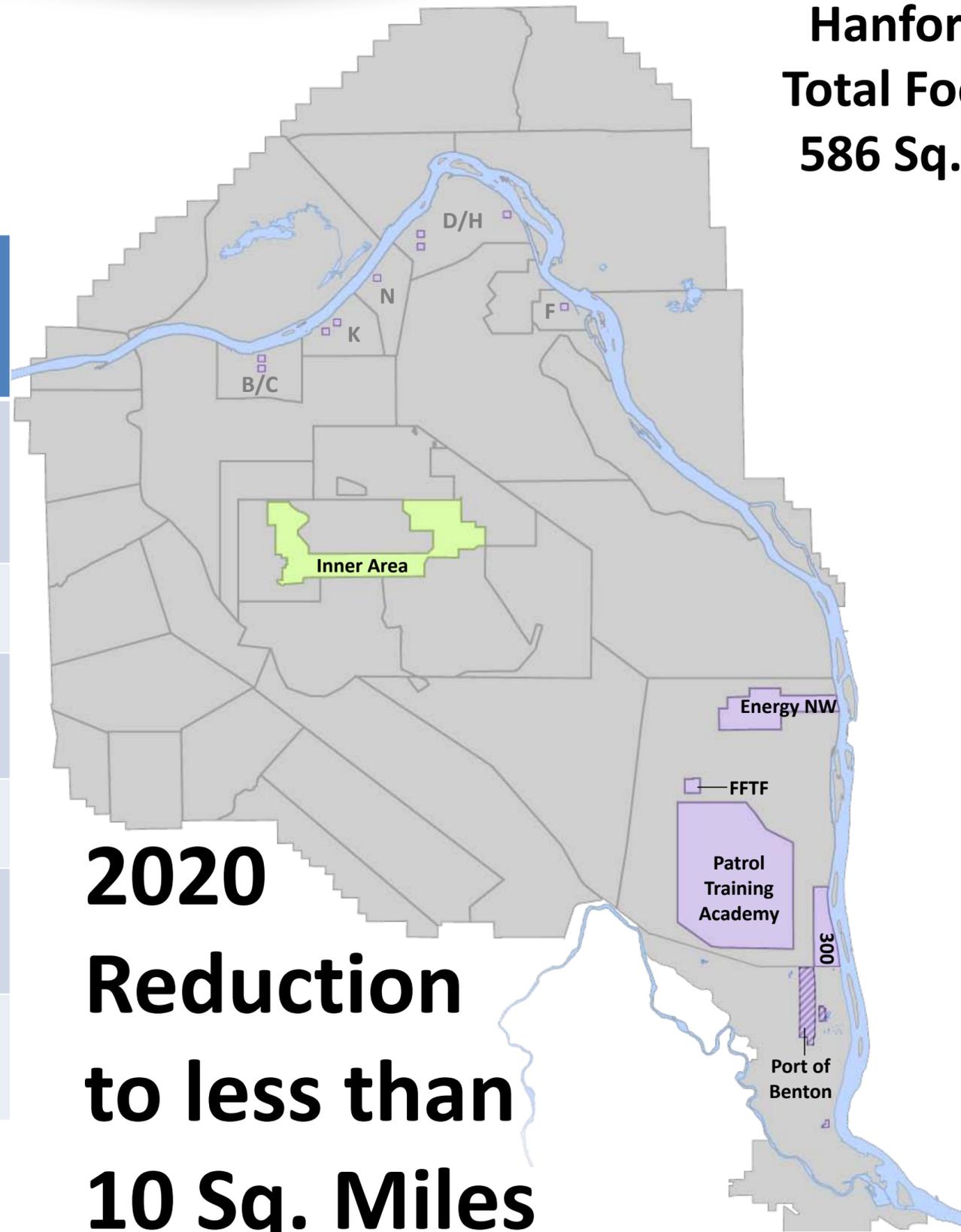
the 2015 Vision

Hanford Site Cleanup

Hanford Cleanup Footprint Reduction

Year	Square Miles Completed	% Footprint Reduction
Completed to Date	203	38%
2011 Goal	290	49%
2011 Projected	373	64%
2015 Goal	530	90%
2015 Projected	533	91%
2020 Projected	~576	98%

**Hanford Site
Total Footprint
586 Sq. Miles**





Office of River Protection Cleanup Vision

Department of Energy
Office of River Protection

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State of the Site

Office of River Protection

Focus

- ✓ Safety
- ✓ Integration into One System/River Protection Project
- ✓ Infrastructure upgrades
- ✓ Pivot into commissioning/operations

Progress

- ✓ Waste Treatment Plant (WTP) 80% design complete, 58% total
 - ✓ Pretreatment Facility 46% complete total
 - ✓ High Level Waste Facility 52% complete total
 - ✓ Low Activity Waste Facility 64% complete total
 - ✓ Analytical Lab 46% complete total
 - ✓ Balance of Facilities 46% complete total
- ✓ 7 single-shell tanks emptied to date, 4 more to the limits of technology, 1 in progress
- ✓ 2 evaporator campaigns, reducing DST waste volume by 480,000 gallons over past year
- ✓ Finishing strong on ARRA projects
 - ✓ 42 subprojects complete / 111 subprojects
 - ✓ \$213.6M spent to date / \$326M allotted for ORP
 - ✓ Recovery Act work being done under budget and within schedule



Office of River Protection 2016 Cleanup Vision

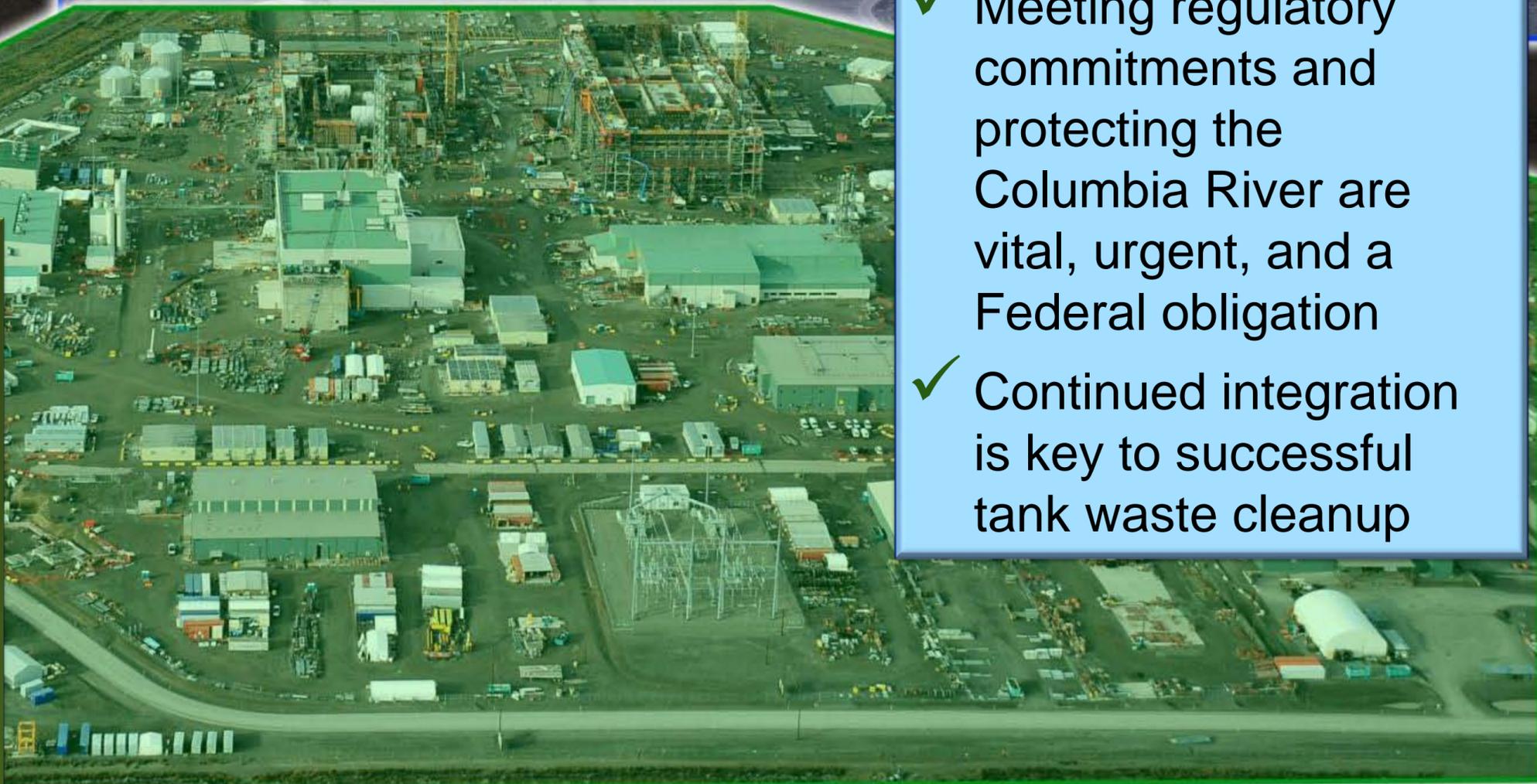
Transition from a waste storage to a waste treatment and immobilization mission of Hanford's 53 million gallons of tank waste by 2016

- ✓ **Deliver on regulatory commitments to the State of Washington and protect the Columbia River:**
 - ✓ **Complete construction of the Waste Treatment Plant:** Pivot the project from design/construction to commissioning/operations
 - ✓ **Empty all 16 Single-Shell Tanks in C-Farm**
 - ✓ **Prepare Hanford's tank farm feed/delivery systems:** Transfer waste feed to the Waste Treatment Plant when it becomes operational in 2016
- ✓ **Turnover and commission 16 of 18 Waste Treatment Plant facilities:** Commission the Laboratory, Low Activity Waste Facility, and Balance of Facilities to accelerate the treatment and immobilization of Hanford tank waste by 3 years
- ✓ **Develop and deploy transformational technologies for supplemental treatment, secondary waste, retrievals and waste delivery**

Hanford River Protection Project

2020 Cleanup Vision

- ✓ Operational River Protection Project
 - ✓ 100% of Waste Treatment Plant facilities commissioned, turned-over and operational
 - ✓ Producing both high-level and low-activity waste glass
 - ✓ Focused on meeting 2022 Consent Decree for initial plant operations
 - ✓ Focused on completing 30-year waste treatment mission



- ✓ We are demonstrating visible progress; improving trends in project, operations, and safety
- ✓ Meeting regulatory commitments and protecting the Columbia River are vital, urgent, and a Federal obligation
- ✓ Continued integration is key to successful tank waste cleanup