FRANCIS E. WALTER DAM & RESERVOIR RE-EVALUATION STUDY

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STUDY PURPOSE AND SCOPE

Study will focus on:

- Flood life risk and damage downstream
- Recreational use
- Water supply/allocation low for flow augmentation during drought
- Identify possible improvements to the existing structure, infrastructure, and operations

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PROBLEMS

- Increased potential for life loss and economic damages during flood events along the Lehigh River due to increased population and development in the study area, as well as the possible increased intensity and frequency of storms in the Northeast U.S
- Degraded aquatic habitat and recreational fishing opportunities in the Lehigh River from mid-July through September due to elevated temperatures in the water released from the F.E. Walter Reservoir
- Increased demand on water stored in the F.E. Walter Reservoir for low flow augmentation to help meet mandated flow objectives in the Delaware River at Trenton, New Jersey, as a result of increasing frequency of drought conditions and salt water intrusion driven by sea level rise

OPPORTUNITIES

- Enhance in-lake recreation at the F.E. Walter Reservoir for fishing and boating
- Enhance upland recreational opportunities on lands associated with the F.E. Walter Dam & Reservoir
- Enhance in-lake recreation at the F.E. Walter Reservoir for swimming

OBJECTIVES

- **Reduce life loss and economic damages** during flood events along the Lehigh River downstream of the F.E. Walter Dam resulting from increases in population and development that have occurred, as well as the possible increasing intensity and frequency of storms in the Northeast U.S.
- **Improve the quality of aquatic habitat** and enhance recreational fishing opportunities in the Lehigh River up to 30 miles downstream of the dam by reducing elevated water temperatures released from the F.E. Walter Reservoir in mid-July through September.
- Enhance the ability to further **contribute to mandated flow objectives** in the Delaware River measured at Trenton, New Jersey and repel the salt front on the river, by increasing the flexibility to provide low flow augmentation via the Lehigh River during drought conditions.
- **Improve boating and fishing** opportunities on the F.E. Walter Reservoir.
- **Enhance upland public recreational opportunities** on lands associated with the F.E. Walter Dam & Reservoir.
- Provide opportunities for swimming in the F.E. Walter Reservoir.

CONSTRAINTS

- Mitigate adverse impacts to Federally **threatened or endangered species**
- Mitigate any increases to the residual or incremental **life risk** downstream of the dam
- Do not compromise the use of the dam and reservoir for **flood risk management** (i.e., maintain adequate flood storage space)
- Do not negatively affect use of the Lehigh River for whitewater **recreation** and fishing
- Minimize impacts to **upstream** businesses and communities from potential modifications to the dam
- Do not compromise the ability to conduct vital **maintenance** activities on the intake tower

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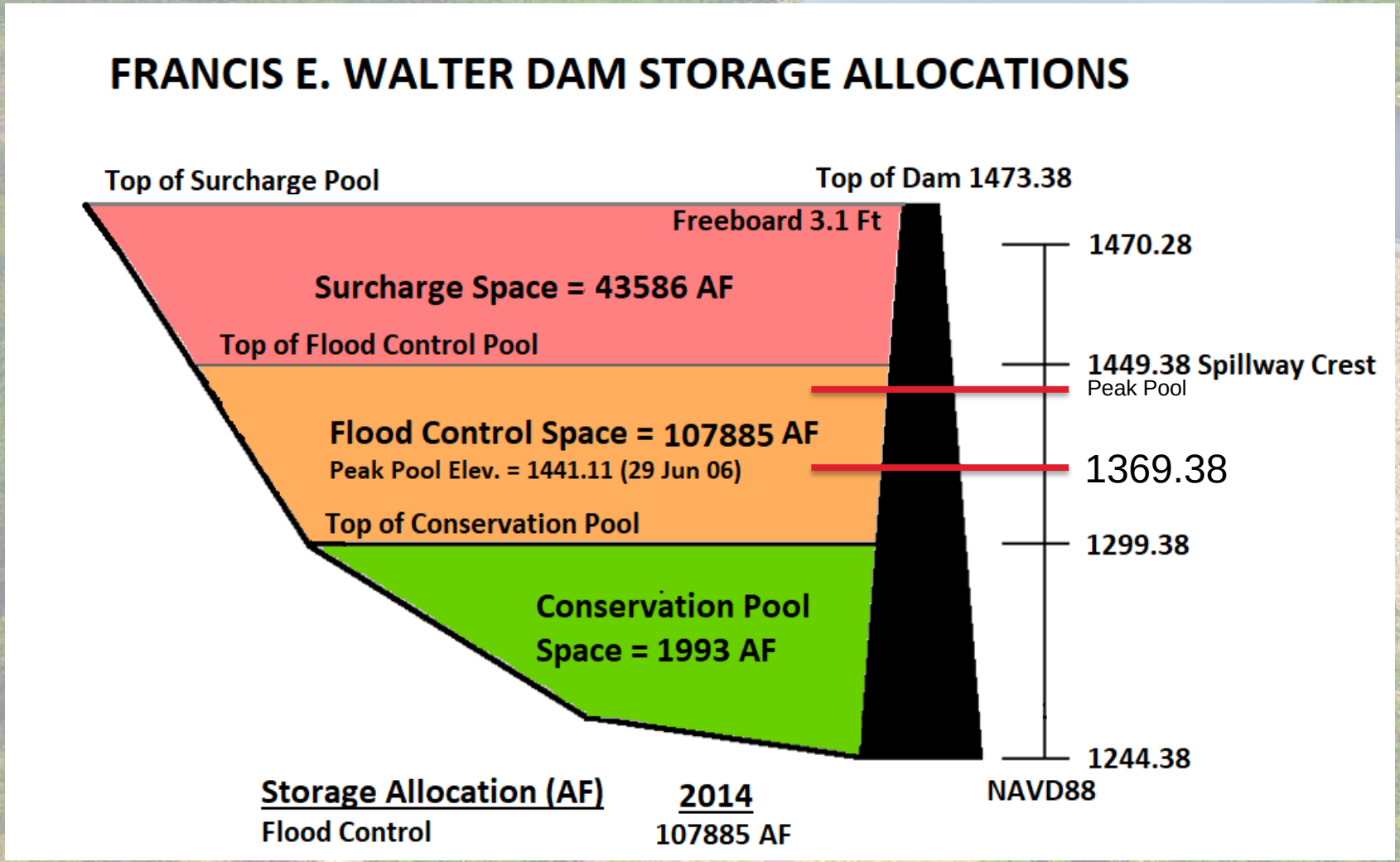
CURRENT CONDITIONS OF FE WALTER



- Spring water storage April 1 by May 15 the pool reaches about 1370';
- Recreational Releases from Flood Control Space for fishing and whitewater rafting
- October maintenance release for any excess water that may have accumulated.
- Study for Probable Maximum Flood shows existing dam high enough

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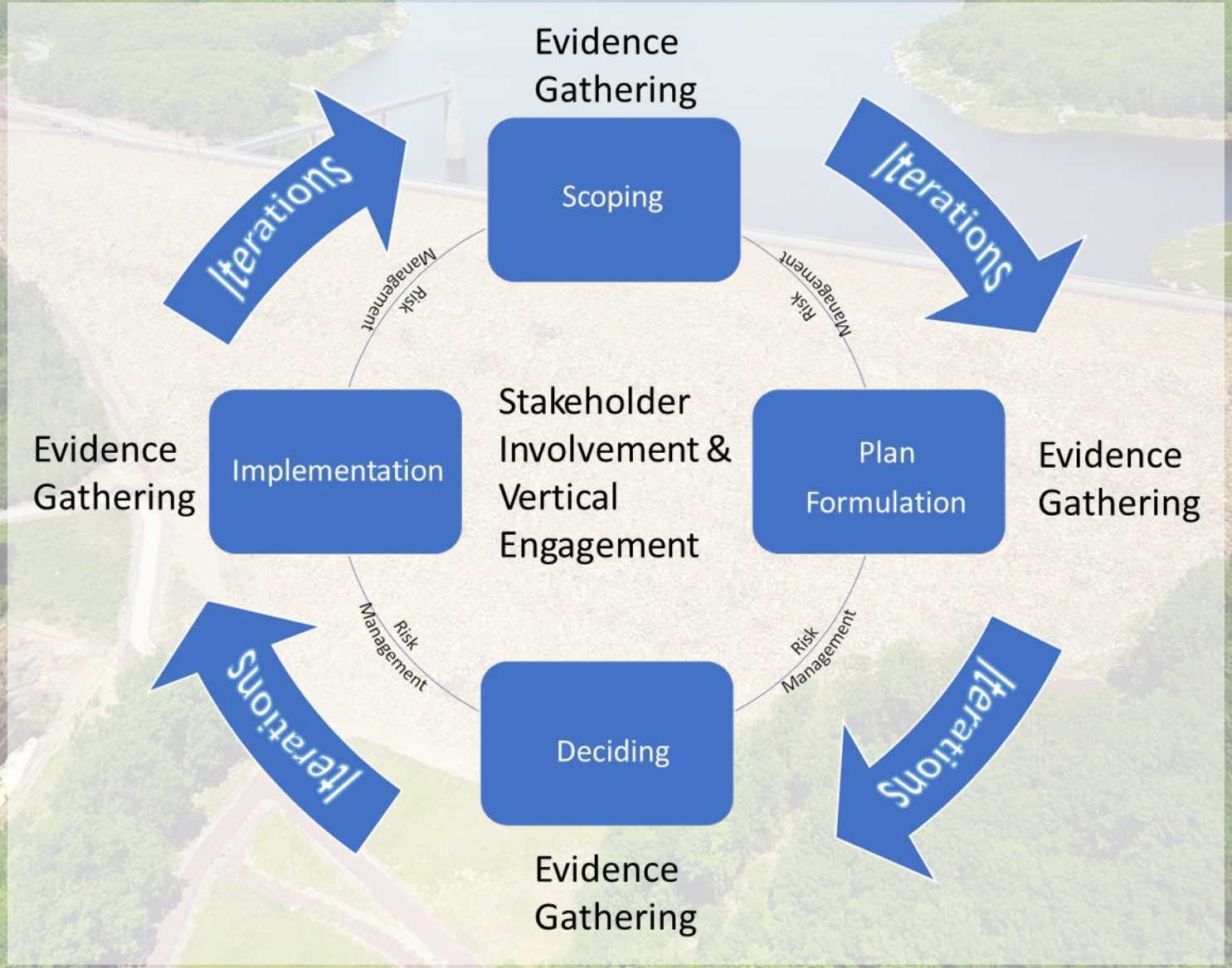
REVISED INITIAL ALTERNATIVES

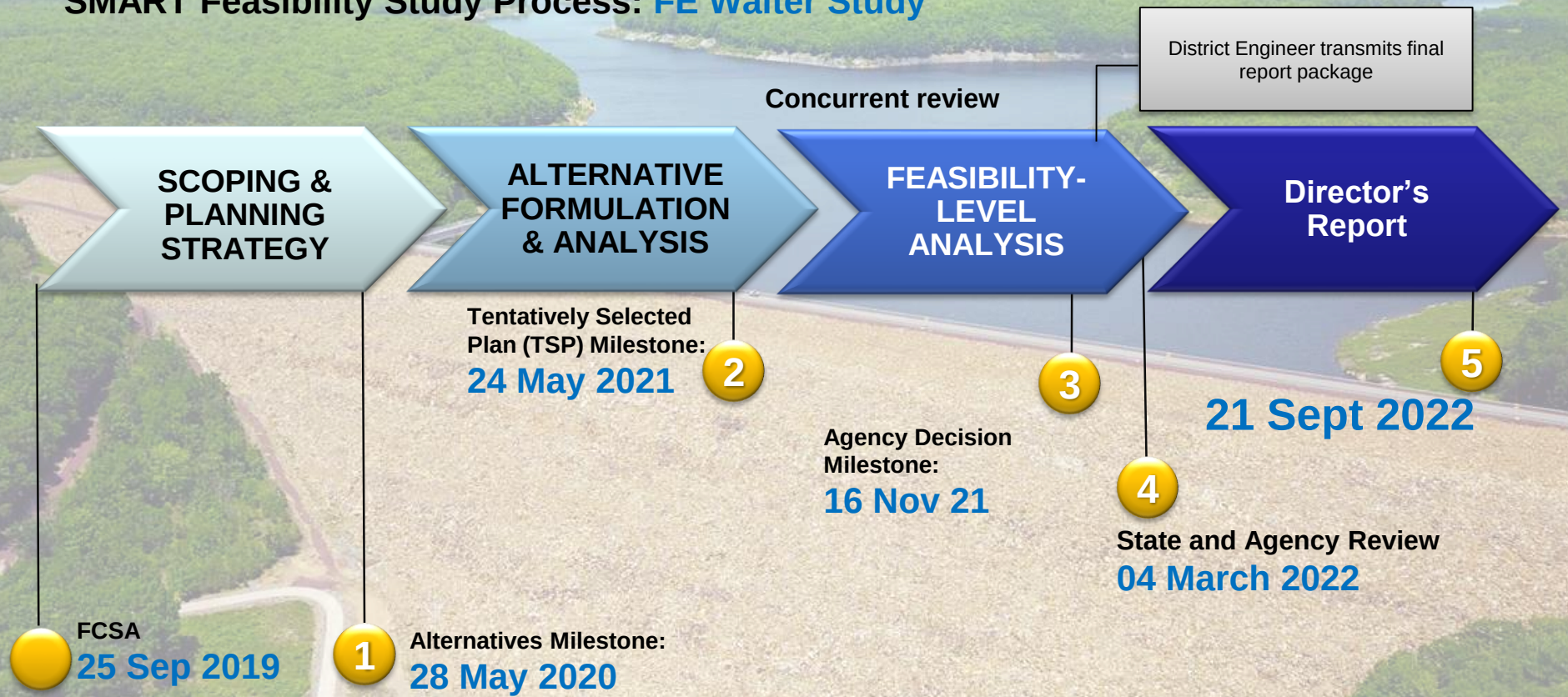
Alt 1 – No Action/Future Without Project (FWOP)
Alt 2 – Increased Storage with Structural Modifications*
Alt 3 – Raise Dam (consider multiple elevations) with Tower Replacement*
Alt 4 – Modify Existing Tower for Selective Withdrawal*
Alt 5 – Operational Changes to Alter Releases*
Alt 6 – Build or Raise Levees, Add Dikes*
Alt 7 – Non-structural Downstream Flood Improvements*
Alt 8 –Combination Alt 2-7*

*** – Recreational Enhancements to be considered in within all actionable alternatives**

Risk-Informed Planning Process



SMART Feasibility Study Process: FE Walter Study



USACE Smart Planning involves a 3 year study process marked major milestone processes. The three period starts with the signing of Feasibility Cost Share Agreement (FCSA). Major milestones include and Alternative Milestone (AMM), Tentatively Selected Plan (TSP) and Agency Decision Milestone (ADM). The study will be signed by Director of Civil Works / USACE HQ

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ENVIRONMENTAL COMPLIANCE

- ❑ Planned Environmental Assessment
- ❑ Cultural Resource Investigation background and archival work being conducted.
- ❑ USFWS Planning Aid Report scope of work approved and awaiting MIPR and funding award.
- ❑ Future Cost-Effectiveness and Incremental Cost Analysis (CE/ICA)-best buy plan
- ❑ Ecological Model development ongoing (Habitat Evaluation Procedures). Direct support from PCX, USFWS, PA Fish and Boat Commission, Environmental Protection Agency, and others.
- ❑ NEPA Existing Conditions coordination and development ongoing. NEPA Scoping Letter sent 11 December 2019.
- ❑ Cooperating Agency Scoping Letter sent 04 June 2020.

COOPERATING AGENCIES

- Study Cooperating/Participating Agency letter sent to 22 Federal, State, and Tribal contacts.

- Accepted Participating or Cooperating Agencies:
  - U.S. Environmental Protection Agency (Participating)
  - U.S. Fish and Wildlife Service (Participating)
  - National Park Service (Participating)
  - Pennsylvania Fish and Boat Commission (Participating)
  - Delaware State Geological Survey (Participating)
  - New Jersey Department of Environmental Protection (Cooperating)

- "Environmental Working Group" established that includes 27 participants representing Federal and State environmental interests potentially affected by the study.

NEXT STEPS

- Complete Water Needs Analysis
- Complete Future Without Project (FWOP) condition
- Screen Initial Alternatives
- Develop Focused Array of Alternatives.
- Evaluate Focused Array to develop selected plan

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QUESTIONS?

Additional information can be found at:

https://www.nap.usace.army.mil/Missions/Civil-Works/Francis-E-Walter-Dam/Reevaluation-Study/