

FUSING AIRBORNE, SATELLITE & MODELED ASSESSMENTS: COMPREHENSIVE SURVEYS OF THE ANADARKO AND HAYNESVILLE

Supporting the development of improved, basin-specific methane emissions quantification and mitigation strategies.

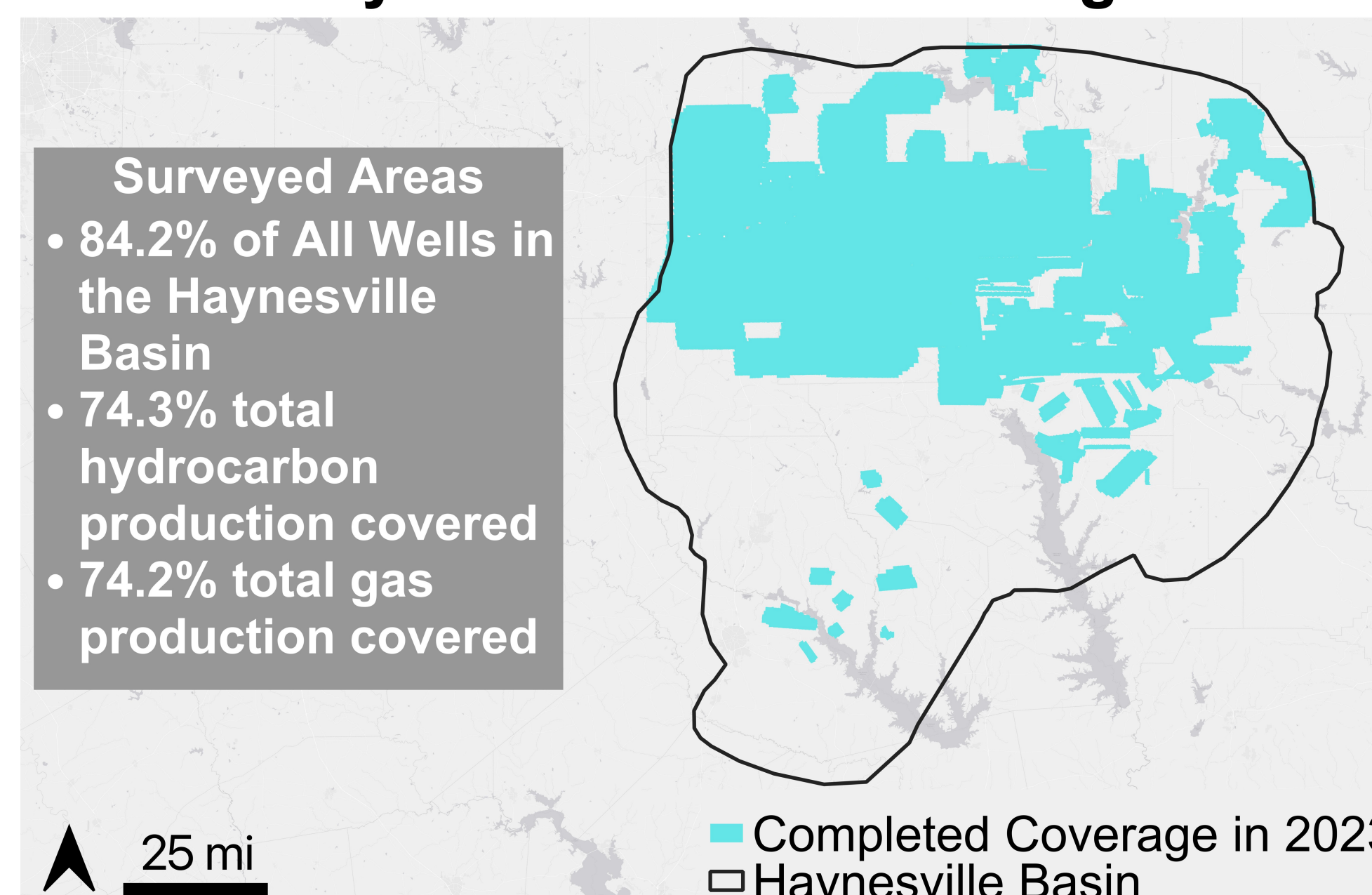


Motivation & Goals

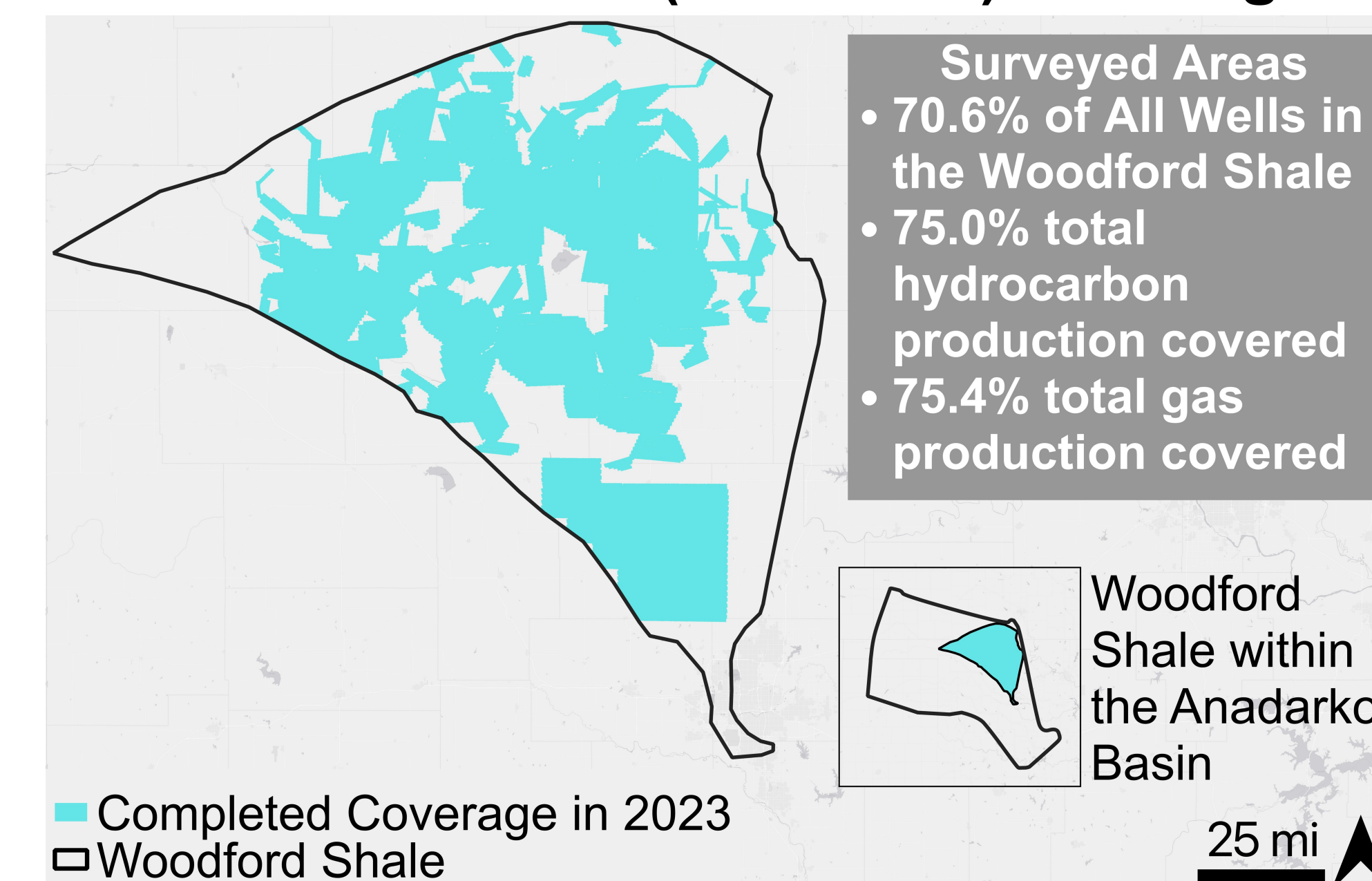
1. Create basin-specific methane emissions inventories of the Haynesville and Anadarko basins by reconciling top-down and bottom-up inventories.
 - **Top-down:** Anonymized data collected via a coordinated airborne and satellite campaign
 - **Bottom-up:** Advanced site-level emissions modeling (Rutherford et al., 2021)
2. Reconcile inventories for upstream & midstream segments, building on methodology in Sherwin et al., 2024.
3. Collect a three-year airborne time series of anonymized methane emissions to characterize seasonal and annual trends.

The project completed airborne survey of ~6,000 mi² in 2023.

Haynesville Basin Coverage



Woodford Shale (Anadarko) Coverage



Additionally, the team has tasked frequent satellite follow-up for 16 large emission sources found in the airborne campaign to characterize longer-term source behavior.

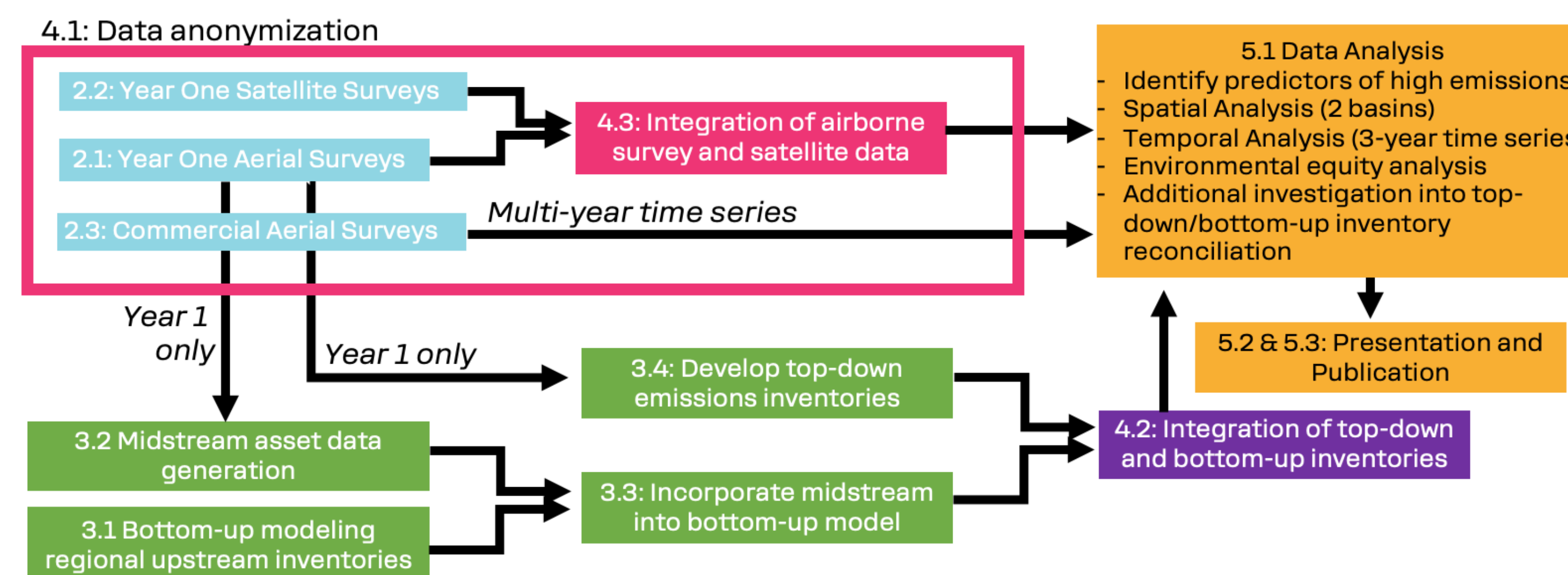
Collaborating Teams

Insight M (PI: Dr. Elena Berman) – Project primary & science lead for aerial (top-down) campaigns.

Stanford University & Lawrence Berkeley National Laboratory (Prof. Adam Brandt & Dr. Evan Sherwin) – Science lead for analysis & bottom-up inventories

MiQ (Dr. Lara Owens) – Analytics, focusing on modeling and midstream

Three Year Project Outline



Work in 2023 and early 2024 focused on airborne & satellite campaigns.

Representative Sampling

