

The Aquatic Inventories Program and Private Forest Accord Monitoring

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REDD

Fish Research Evaluation Data & Decision Support



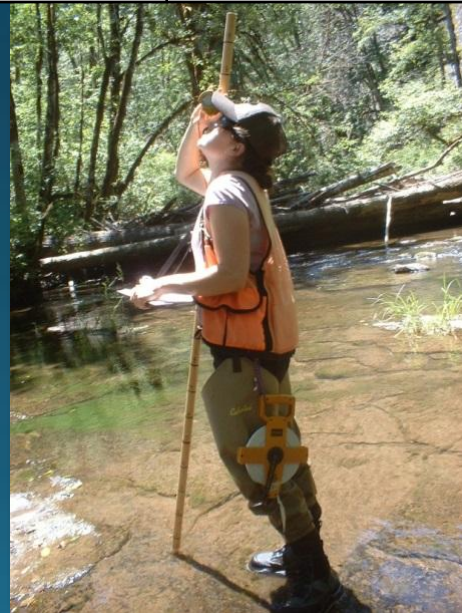
AQI Background

- Developed for use in wadeable streams
- Surveys started in 1990 with opportunistic, basin-scale sampling
- Incorporated snorkel surveys in 2012

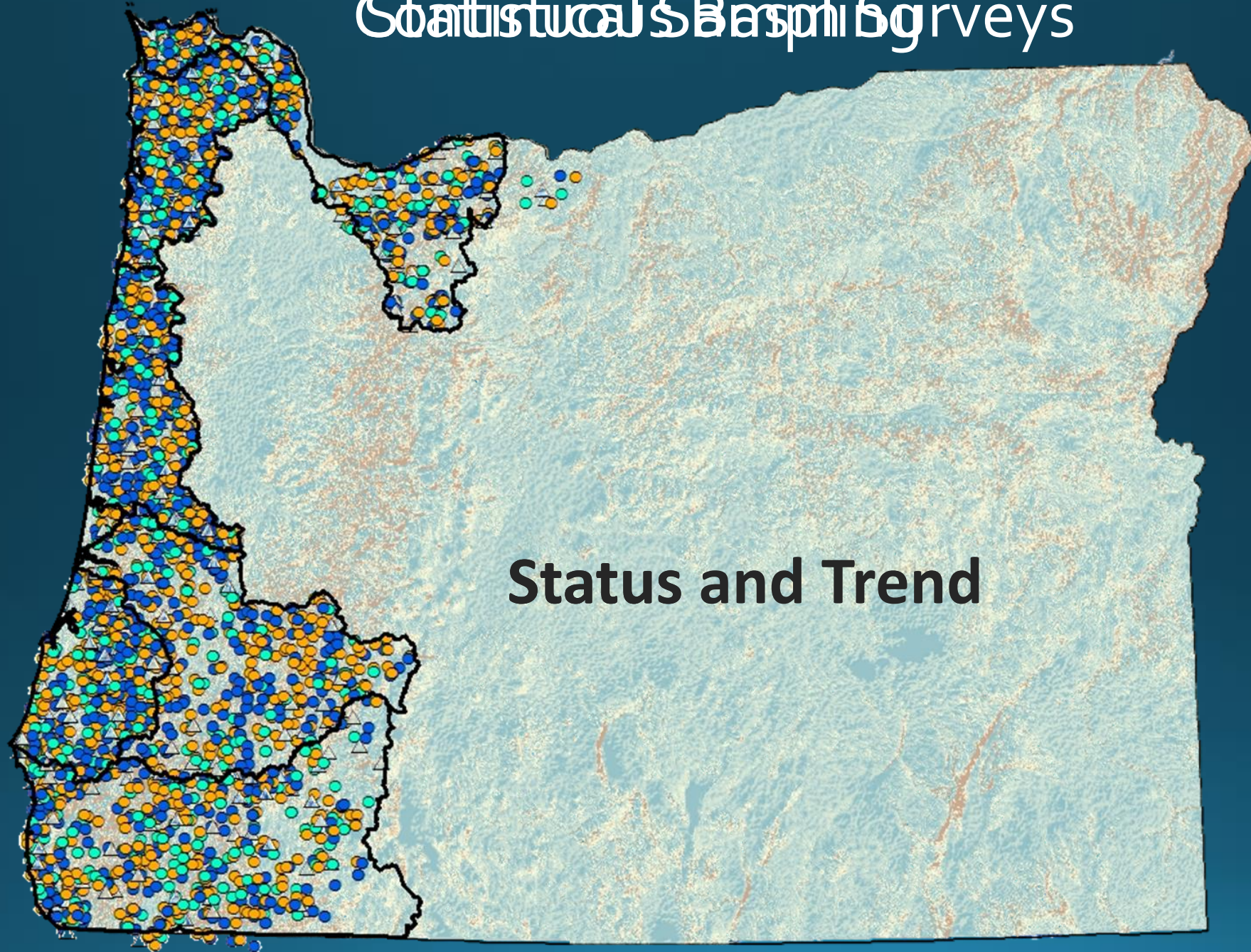
Data Collection



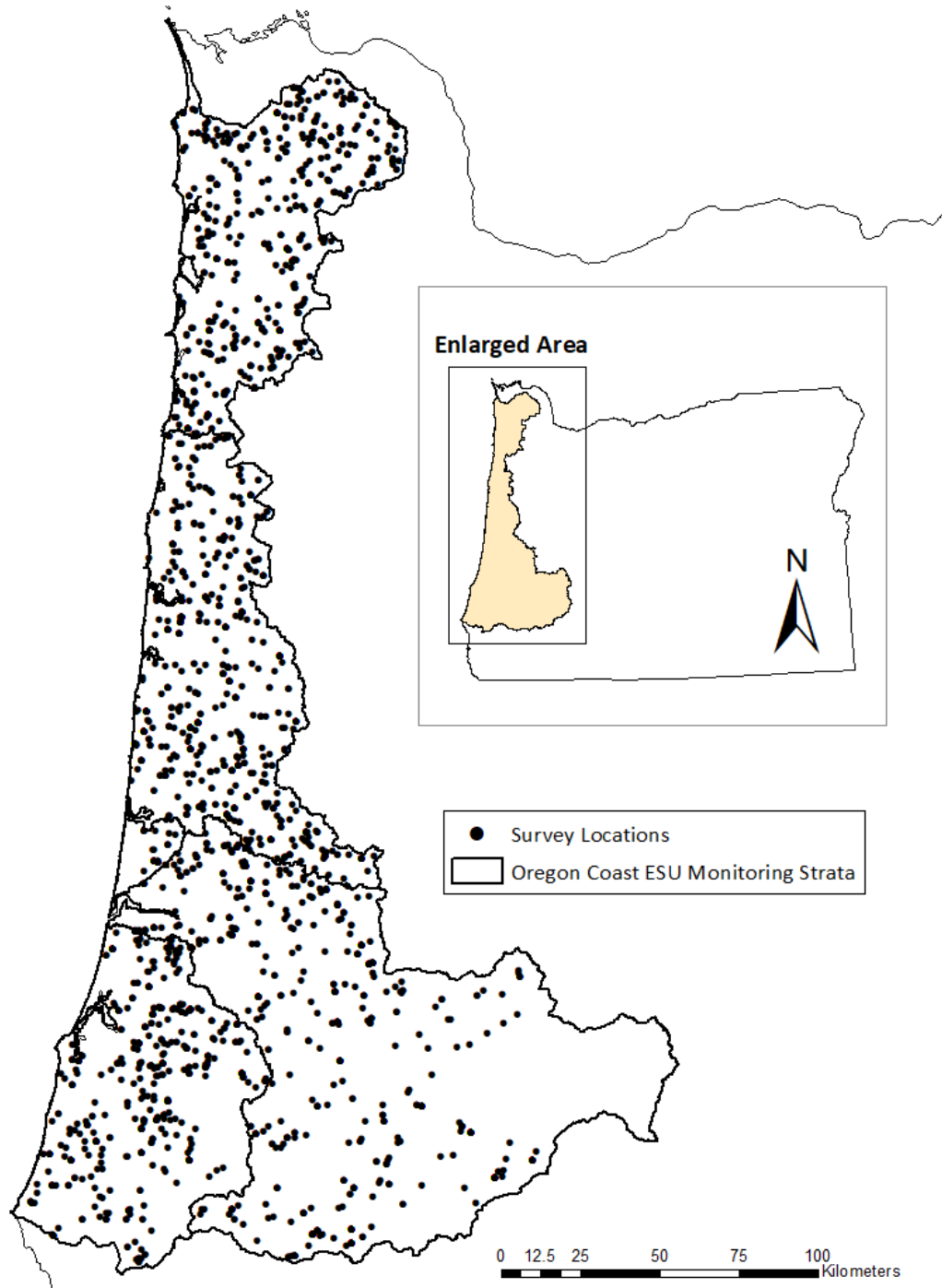
Channel Form	Stream Condition	In-Stream Wood & Riparian Canopy	Species Observation
Length & width	Substrate composition	# of wood pieces and volume (m ³)	Fish count
Secondary channel area	Road crossing & potential barriers	Riparian vegetation	Amphibians
Wetted depth	Temperature	Canopy shade	Beaver activity



Statistical Baseline Surveys



Status and Trend



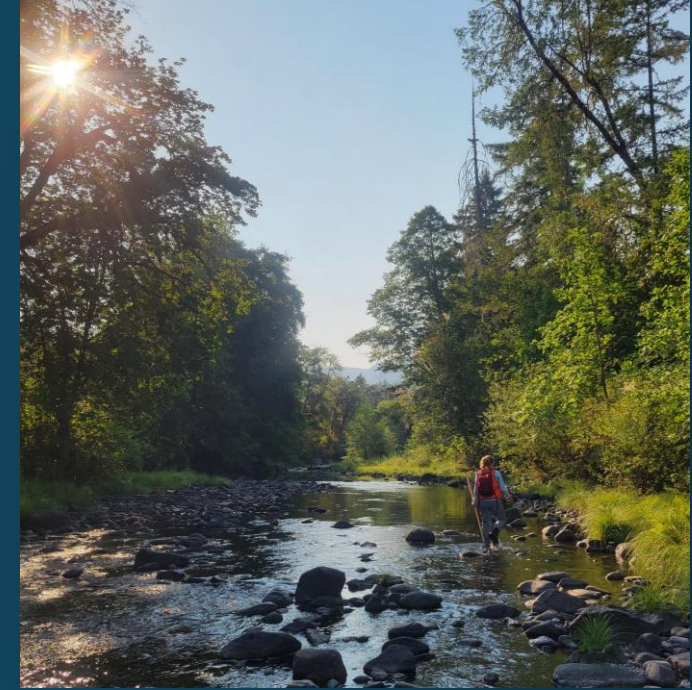
Survey Design

- Survey sites are randomly selected and spatially balanced
- Strata
- Rotating panel structure
- Population: Annual, 3-year, 9-year, once only
- 4,109 unique sites



Previous Monitoring Strategy

Coho-centric



Describe habitat quantity



Collect data to generate capacity estimates to describe habitat quality

Evaluate salmonid abundance



Use snorkel survey methods to describe salmonid occupancy and abundance

Monitor status and trends



Evaluate habitat condition and juvenile abundance and describe status and trends

Inform recovery plans



Update measurable criteria information to inform and guide conservation and recovery plans



Current Monitoring Strategy

Species-centric



Describe habitat connectivity



Utilize existing methods to evaluate seasonal changes in stream habitat connectivity

Evaluate species distribution



Use snorkel surveys to describe how fish are distributed within and across seasons

Monitor thermal-scape



Deploy a network of loggers to understand thermal regimes based on species thermal tolerance

Utilize models and remote sensing



Evaluate riparian and landscape conditions with remote sensed data and existing models

PFA HCP Goals that fit with ODFW Monitoring

- Support the persistence and recovery of fish and amphibian species
- Provide clean, cool, connected, and complex habitats



Photo credit: Eiko Jones

HCP Approach that fits with ODFW Monitoring

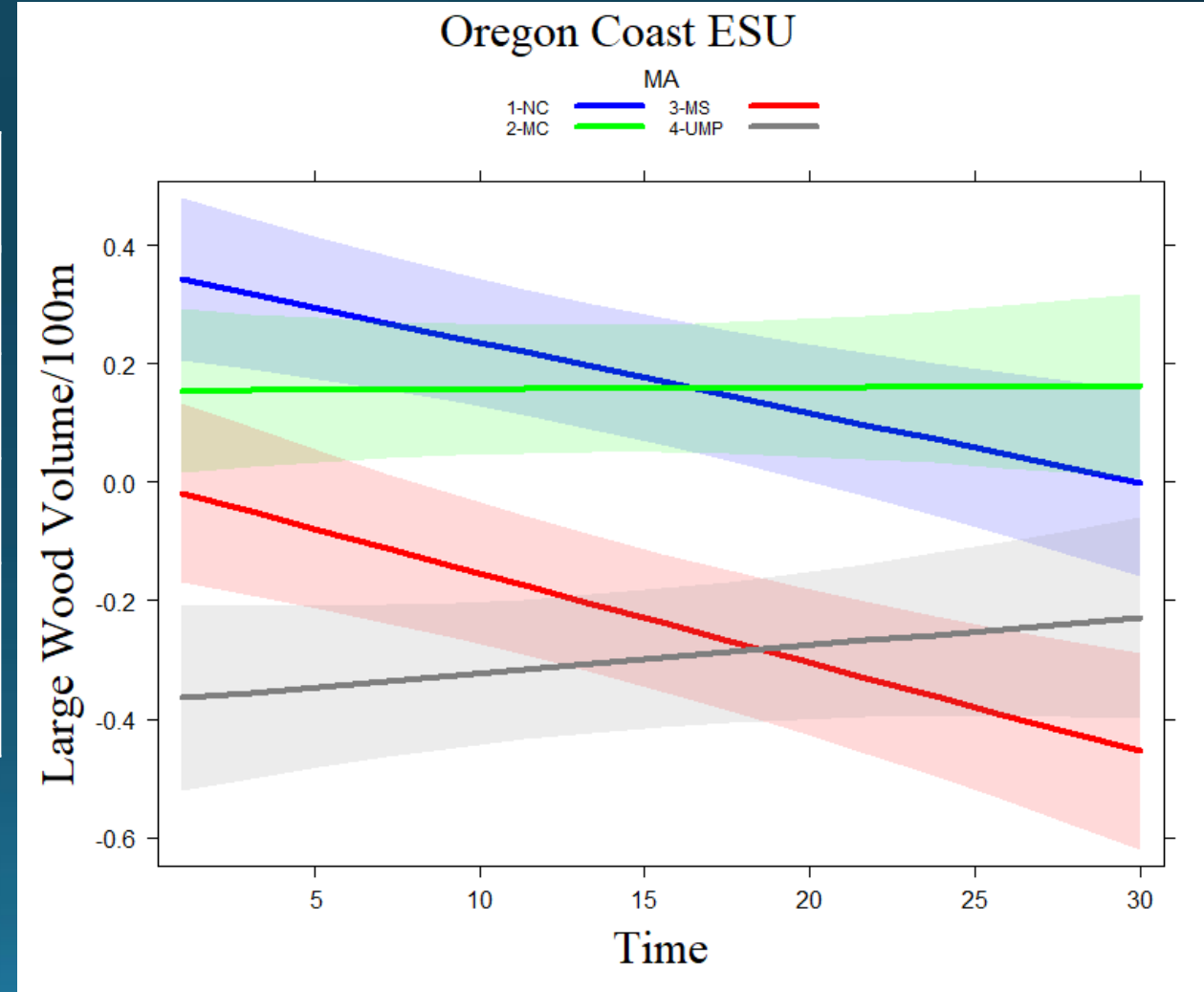
Monitoring Group

Group 1: Implementation Monitoring

Group 2: Status and Trend

Group 3: Targeted Studies

Group 4: Studies After Triggering Events



HCP Objectives that fit with ODFW Monitoring

HCP Goal	HCP Objective	ODFW Survey Metrics
Clean	<u>Sediment</u>	% substrate composition
Cool	<u>Shade</u>	% canopy shade and riparian
Connected	<u>Connectivity</u>	Unit type & channel dimensions
Complex	<u>Large Wood</u>	# of wood pieces

Considerations for sampling design

- What are the questions and what are the goals?
- Can we leverage existing data?
- Spatial extent and stratification
- Balancing status and trend detection
- Treatment detection



Thank you!

Matt Strickland

Statewide Aquatic Research and Inventory Section