



Photo source: Matt Kowal

Floodplain Mitigation Banking: Oregon Dips Its Toe in the Water

ACES | Sara O'Brien
December 6 2016



WILLAMETTE PARTNERSHIP

Local Floodplain Management Context

- ✓ Environmental complexity
- ✓ Climate variability and change
- ✓ Planning challenges
- ✓ Shifting regulatory context



Photo credit: River Partners





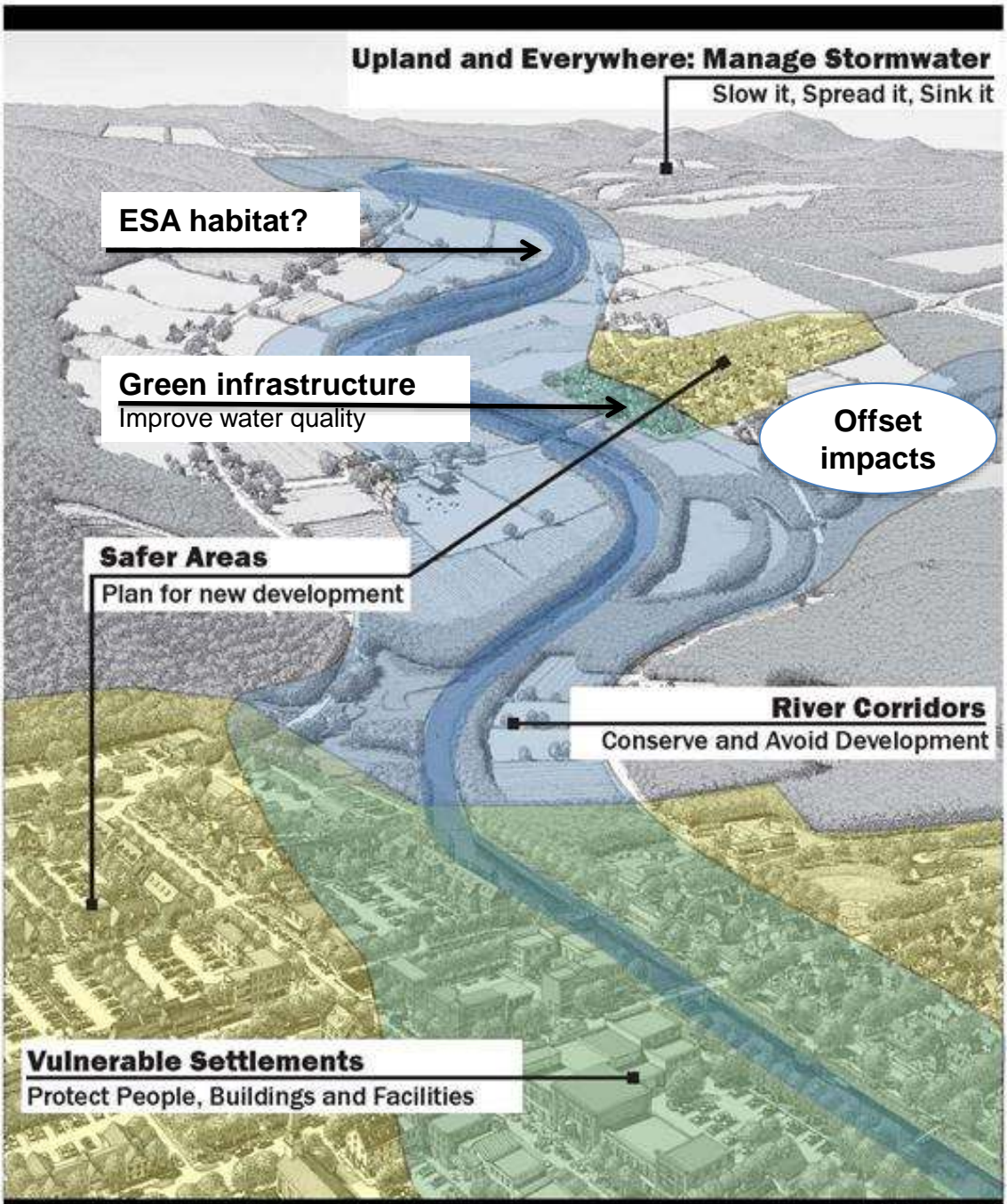
State of Oregon
Department of
Environmental
Quality



Oregon Department of
Land Conservation
and Development



Administered by FEMA



Upland and Everywhere: Manage Stormwater

Slow it, Spread it, Sink it

ESA habitat?

Green infrastructure
Improve water quality

Safer Areas
Plan for new development

Offset impacts

River Corridors
Conserve and Avoid Development

Vulnerable Settlements
Protect People, Buildings and Facilities

Preparing for Future Flooding

Local Floodplain Management Context

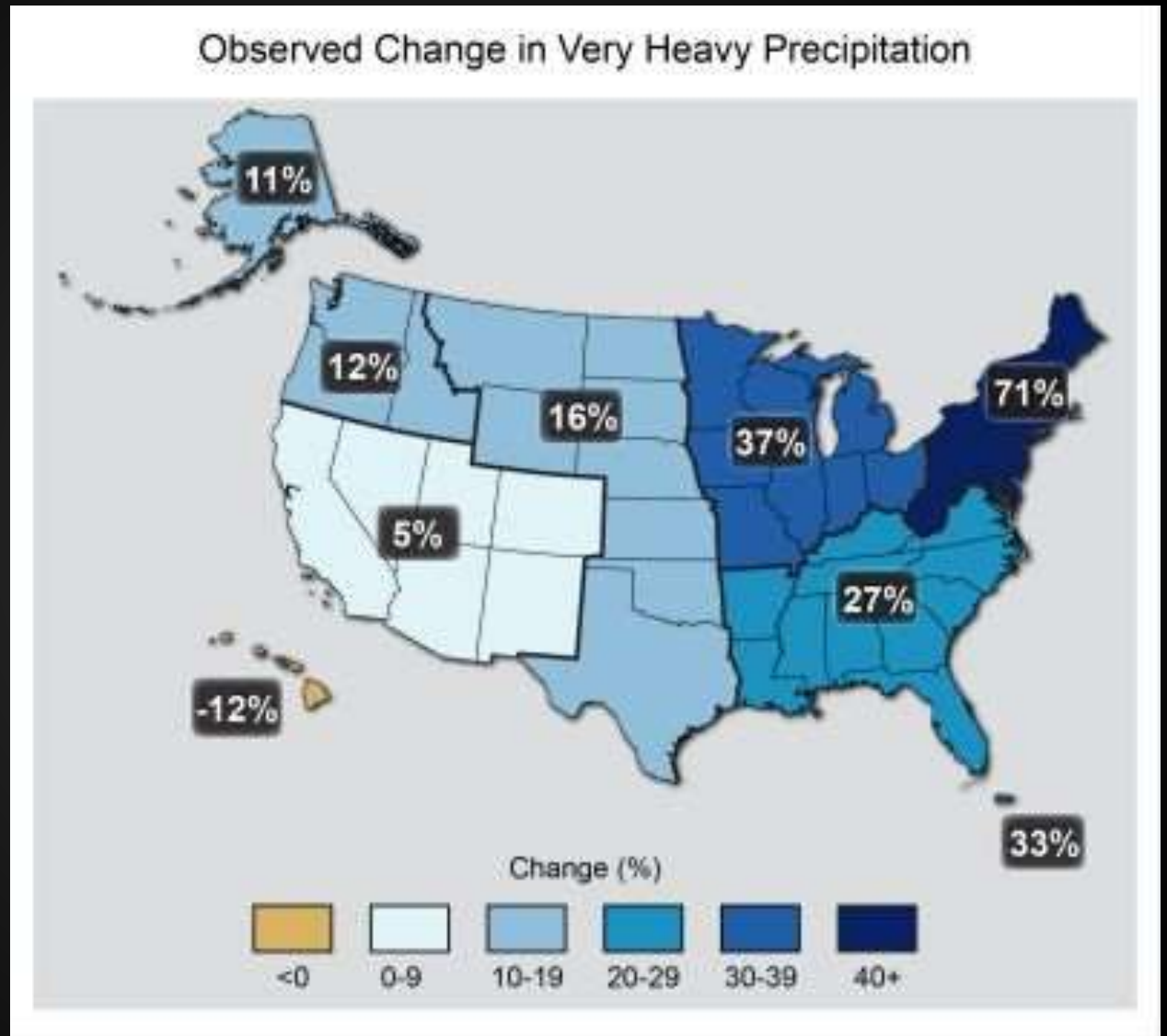
- ✓ Increasing costs
- ✓ Increasing risk



Photo credit: River Partners



Increases in
Number of Days
with Very Heavy
Precipitation
(1958 to 2007)



Source: Global Climate Change Impacts in the United States, 2009

The number of repeatedly flooded properties has been increasing by an estimated 5,000 each year.

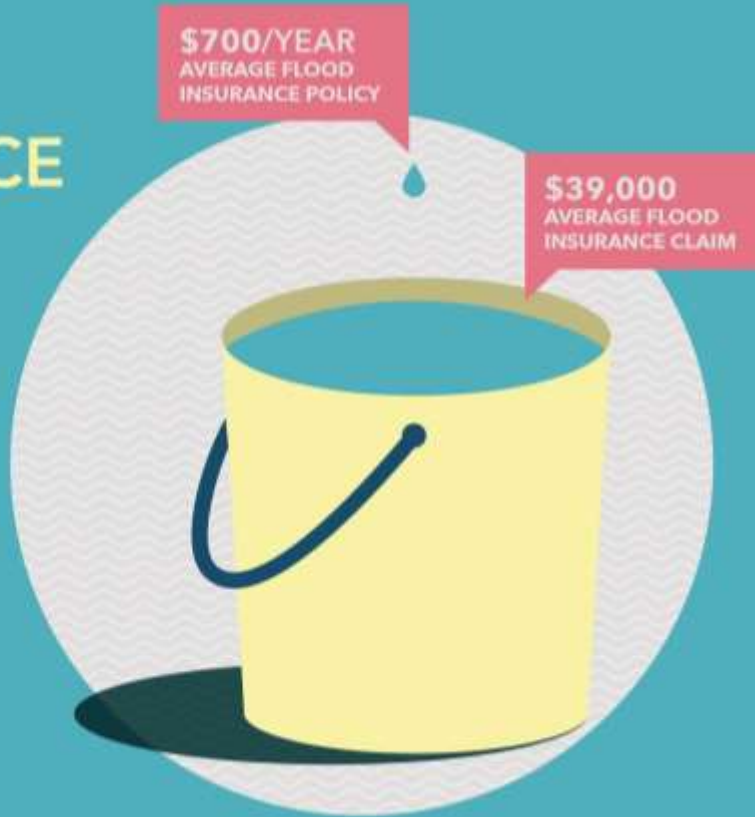


Source: Pew Charitable Trusts
2016

THE COST OF
**FLOOD
INSURANCE**
IS A DROP IN
THE BUCKET
COMPARED TO
THE COST OF
**FLOOD
DAMAGE**

\$700/YEAR
AVERAGE FLOOD
INSURANCE POLICY

\$39,000
AVERAGE FLOOD
INSURANCE CLAIM



FEMA

Floodplain Managers' Toolkit in Oregon

- Integrated plans - **ID** high hazard & high value areas for avoidance
- Standardized tools to quantify and value floodplain functions
- Incentives for multi-credit mitigation banking for floodplain function
- Watershed-scale **analysis** to target site level restoration
- **Model communities** for OR, WA and others



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to NMFS No:
NWR-2011-3197

April 14, 2016

Mark Eberlein
U.S. Department of Homeland Security
FEMA Region X
130 228th Street SW

- Demonstrate avoidance & minimization
- Mitigate loss of flood storage, hyporheic function, water quality, hydrologic process, vegetation and habitat forming processes
- Benefit same **species and populations**
- Occur **prior to or concurrent** with loss of habitat function
- In-kind and on-site mitigation preferred
- **Use** of an NMFS-approved **conservation bank** or in-lieu fee program as alternative



Mitigation Banking

- ✓ Avoidance & minimization standards
- ✓ Net benefit standard
- ✓ Incentives for investment in restoration
- ✓ “Valuation” of floodplain functions



Ingredients of Success

Best available science

Delivers verifiable & durable conservation outcomes

Meets regulatory requirements

Viable incentive structure/business model

Model for OR, WA and others



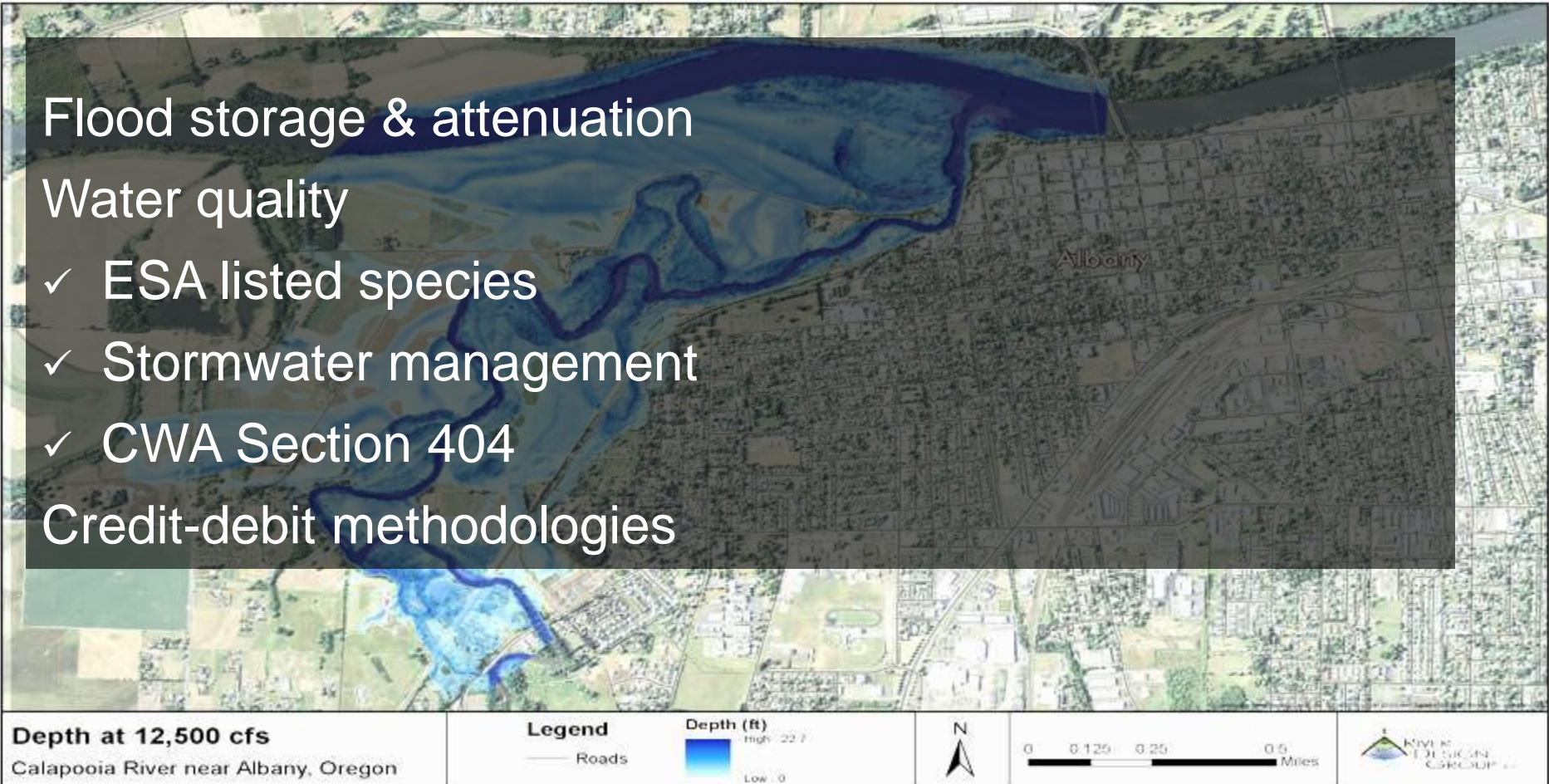
Tools for Quantifying Floodplain Functions

Flood storage & attenuation

Water quality

- ✓ ESA listed species
- ✓ Stormwater management
- ✓ CWA Section 404

Credit-debit methodologies



Cosumnes Floodplain Mitigation Bank

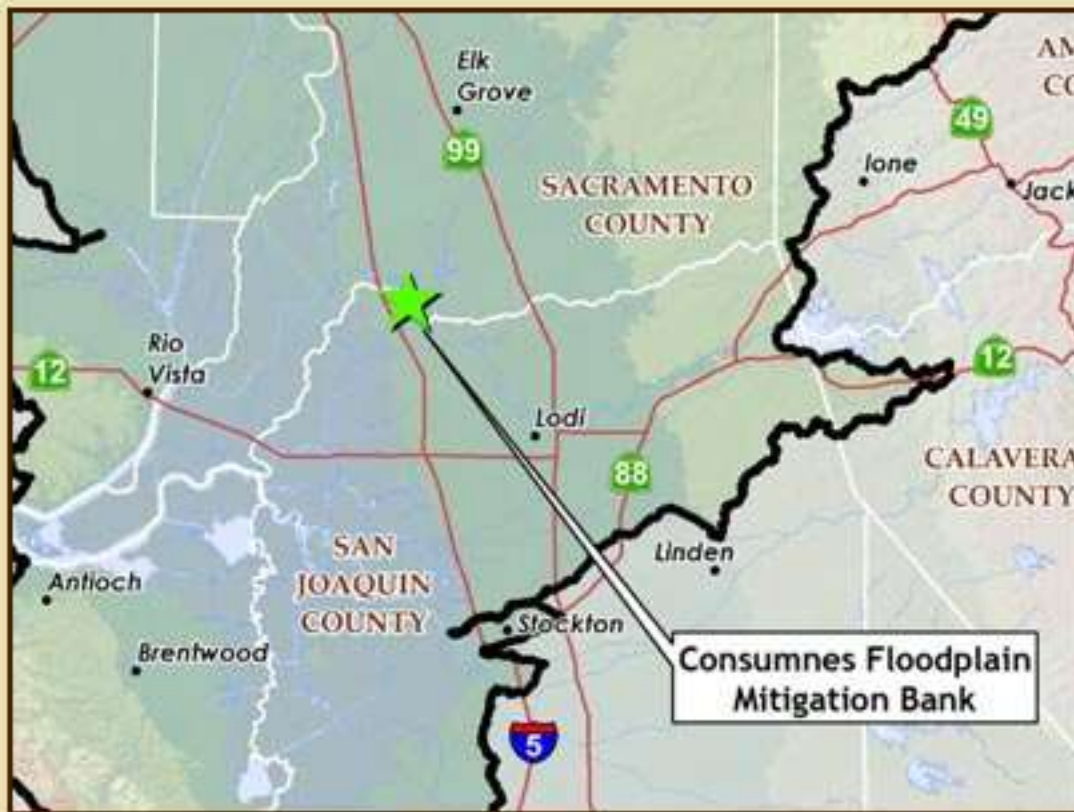
General Information

Credit Overview

Service Area Map

Photos

Request For Information



472-acre site approved to provide:

- Essential fish habitat mitigation credits
- Wetland mitigation credits
- Riparian forest & shrub scrub habitat credits

Click above image to view/download service area PDF

Challenges

Policy: multi-credit/joint banking

Scale & landscape position: site level restoration linked to watershed effects

Business case: incentives for advanced mitigation

Effectiveness: connection to salmon recovery & other ecosystem services



Questions?

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