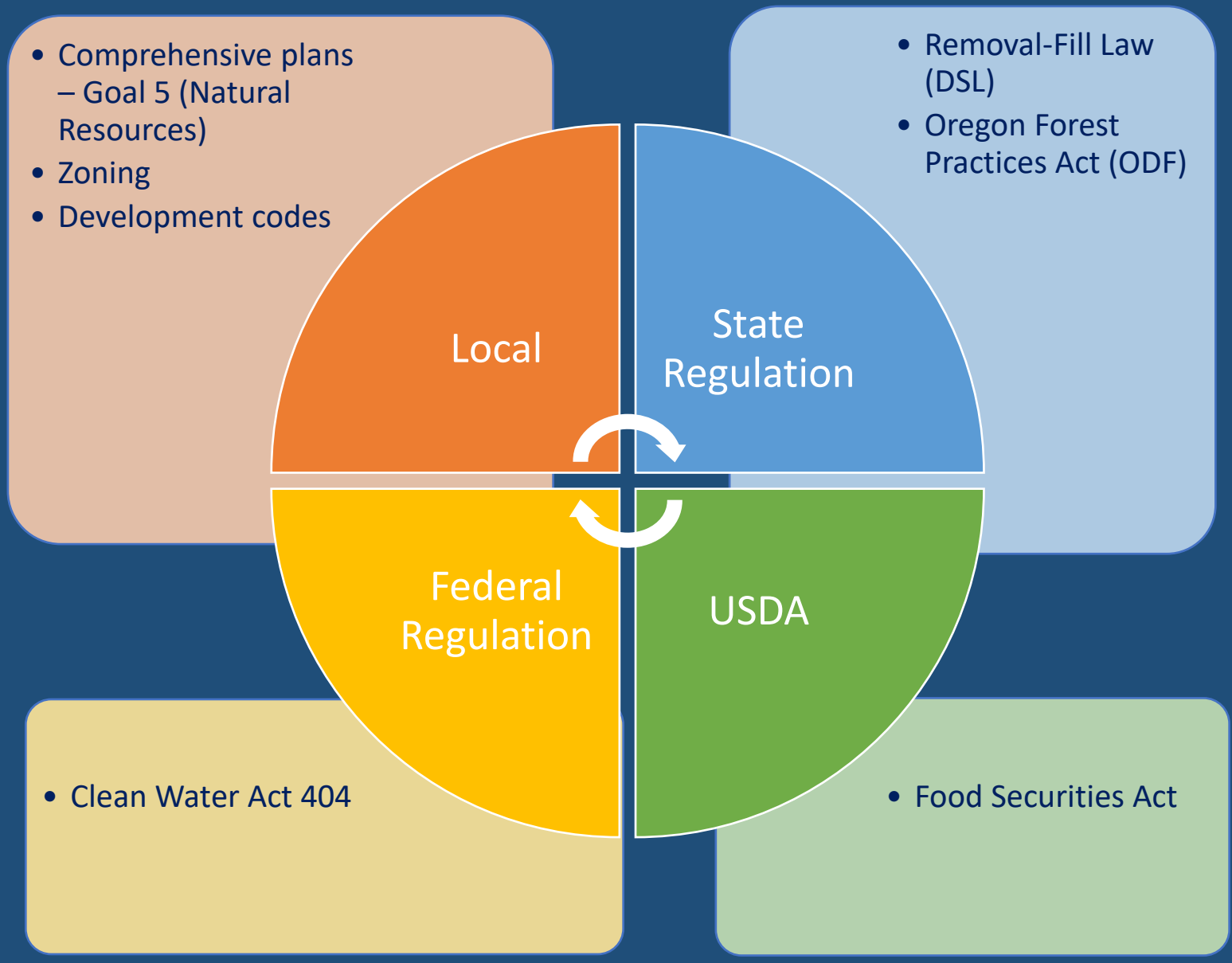
OREGON DEPARTMENT OF STATE LANDS

Society of Wetland Scientists, PNW Chapter
November 3, 2022

Amazon Prairie Mitigation Bank/ PHOTO: Melody Rudenko

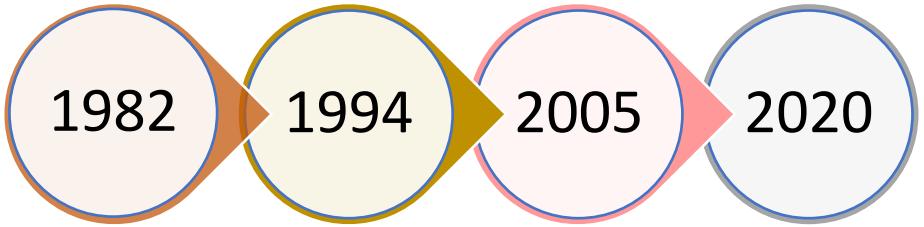
Wetland Resource Management



Willamette Valley

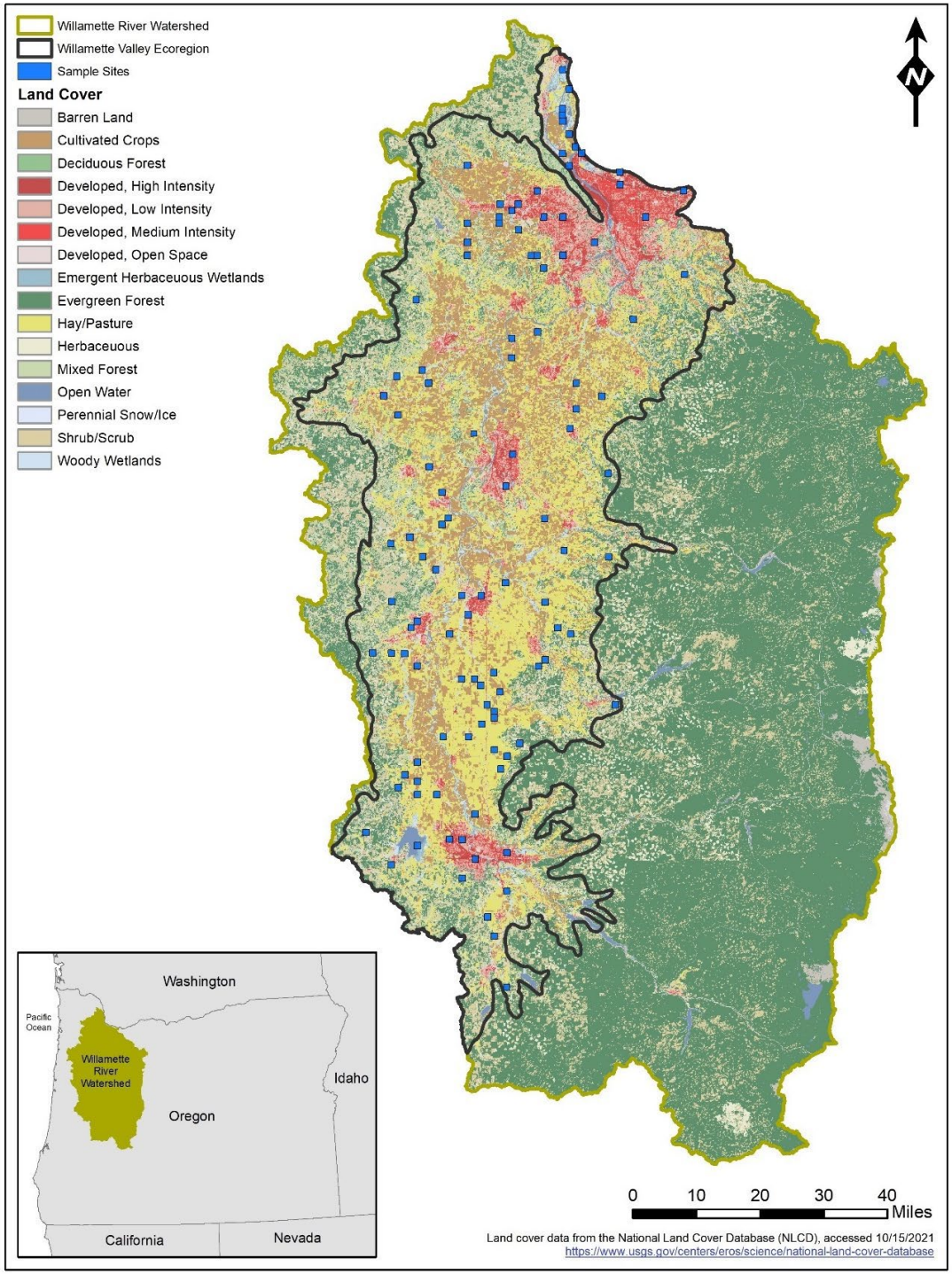
STUDY OBJECTIVES

- Nature of wetland changes
- Land uses associated with wetland changes
- Wetland change dynamics



STUDY DESIGN

- Study Area = Willamette Valley Ecoregion
- Population = 4,790 sections
- Sample of Stratified Population = 711 sections based on STATSCO and land use strata
- Subsample = 114 square mile plots based on % hydric soil
- Aerial photo interpretation and mapping



Wetland, Deepwater and Upland Habitat Types

Attribute	Wetland Types	Common Description
PFO	Palustrine Forested	Forested Wetlands
PSS	Palustrine Scrub Shrub	Shrub Wetlands
PEM	Palustrine Emergent	Marshes/Wet Pastures
PUS	Palustrine Unconsolidated Shore	Shallow/Unvegetated Ponds
PUB	Palustrine Unconsolidated Bottom	Open Water Ponds
PAB	Palustrine Aquatic Bed	Floating or Submerged Vegetation
Pf	Palustrine Farmed	Farmed Wetlands
WFP	Wet Forested Plantation	Planted Pine/Cottonwoods in Wetland Conditions
Attribute	**Deepwater Habitat Types**	**Common Description**
LAC	Lacustrine	Lakes/Reservoirs
RIV	Riverine	River Systems
Attribute	**Upland Land Use/Cover Types**	**Common Description**
UA	Upland Agriculture	Crop Producing/Pasture
UB	Upland Built (Urban)	Cities and Towns
URD	Upland Rural Development	Rural Building/Development
UFP	Upland Forested Plantation	Christmas Tree Farms; Cottonwood Plantations (drained)
UO	Upland Other	Uplands not fitting other category

Wetland, Deepwater and Upland Habitat Types

HGM Code	HGM Class	HGM Subclass
DCNP	Depressional	Closed, Nonpermanently flooded
DCP	Depressional	Closed, Permanently flooded
DO	Depressional	Outflow (open)
F	Flats	None defined
LFV	Lacustrine Fringe	Valley
RFT	Riverine	Flowthrough
RI	Riverine	Impounding
SH	Slope	Headwater
SV	Slope	Valley

2005


PEM
RIV
PSS
UO
PFO
RIV
UO
PEM
PFO
PFO
PFO
PEM
PSS
RIV
PEM
UO
PSS
UB
2005 Wetland Mapping
0
1,000
Feet
National Agriculture Imagery Program (NAIP) under contract for the United States Department of Agriculture (USDA) for the Farm Service Agency's (FSA) Oregon Imagery Framework Implementation Team

2020


PEM
PEM
RIV
RIV
UO
PEM
PSS
PSS
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PFO
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UO
UO
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2005 Wetland Mapping
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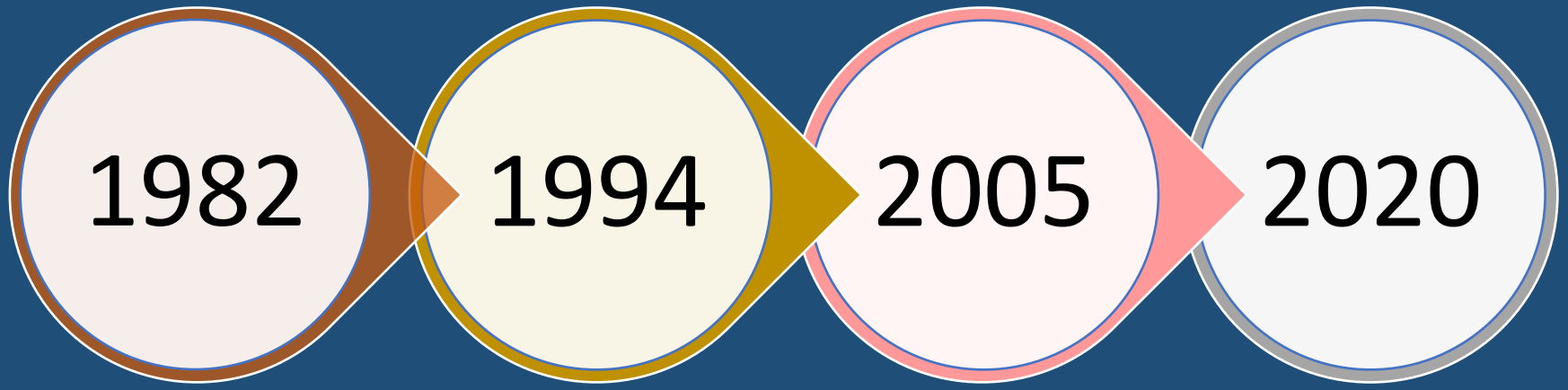
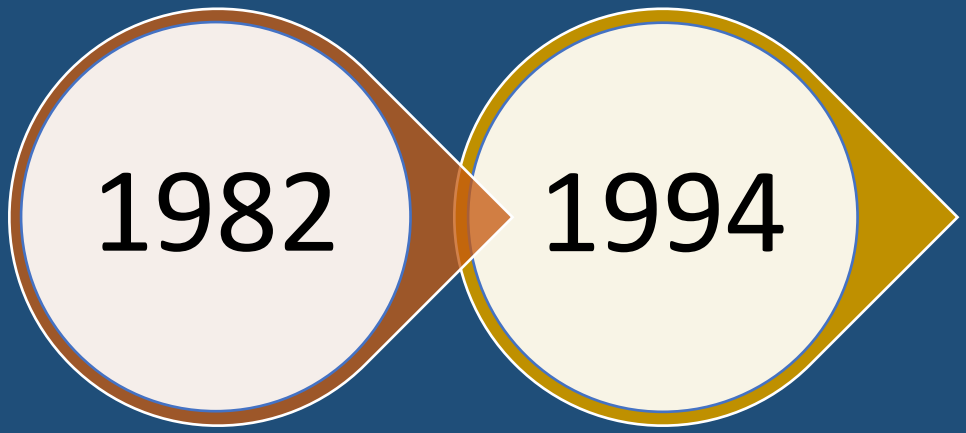
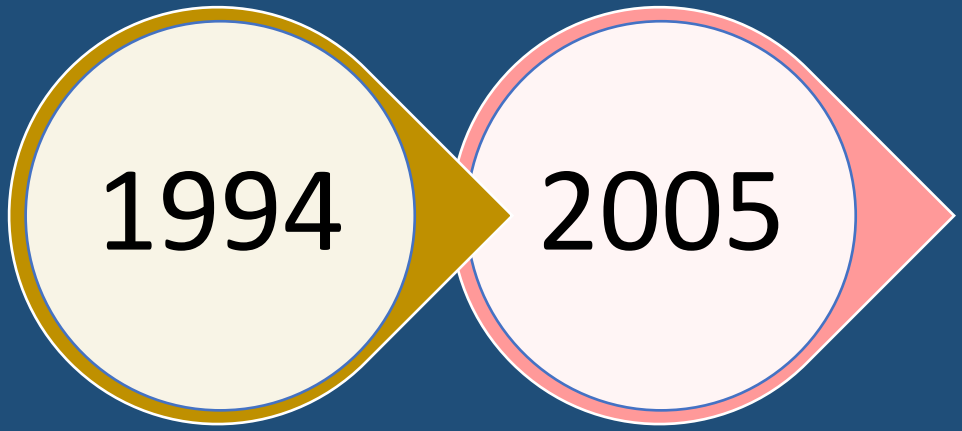


1982

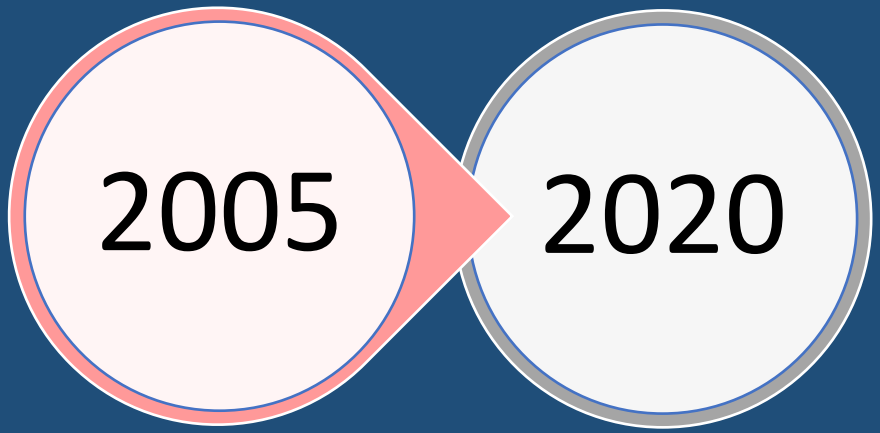
- Pre- state wetland conservation laws and regulation of many wetland types
- Pre- compensatory wetland mitigation requirements
- Pre- many USDA wetland conservation programs/farm bill revisions



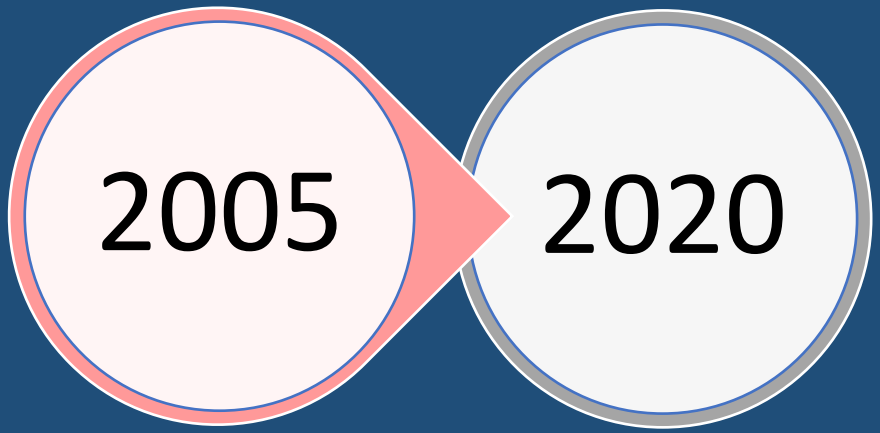
- Net loss of 6,877 acres of wetlands to uplands (2.5%)
- 64% of wetland loss due to conversion to upland agriculture
- Highest wetland loss in palustrine emergent (52%) and palustrine forested (26%)
- Ponds increased; drivers were 928 acres from upland agriculture and 334 acres from palustrine emergent wetlands



- Net loss of 3,960 acres of wetlands (1.3%)
- 98% of wetland loss to upland land uses
- Highest wetland loss in palustrine farmed (52%) and palustrine emergent (24%) types
- 6% loss of palustrine forested wetlands
- Gains in ponds nearly doubled from the previous study period; drivers were 1,372 acres from palustrine emergent wetlands and 494 acres from upland agriculture



- Net gain of 8,564 acres of wetlands (2.7%)
- Upland agriculture was largest source of wetland gains (68%)
- Gross wetland gains were primarily to palustrine farmed (57%) and palustrine emergent (23%)
- Net losses only in palustrine aquatic bed (27%) and palustrine emergent (4%)
- Net gains in other wetland types, led by palustrine unconsolidated bottom (19%) and palustrine farmed at 14%



- Gross wetland losses to lacustrine deepwater types (66%), upland built (16%) and urban residential development (10%)
- Gross wetland losses highest in palustrine unconsolidated bottom (58%) and palustrine emergent (33%)
- Net gains by HGM type were highest in all depressional subclasses (52% total) corresponding to significant gains in deepwater habitats

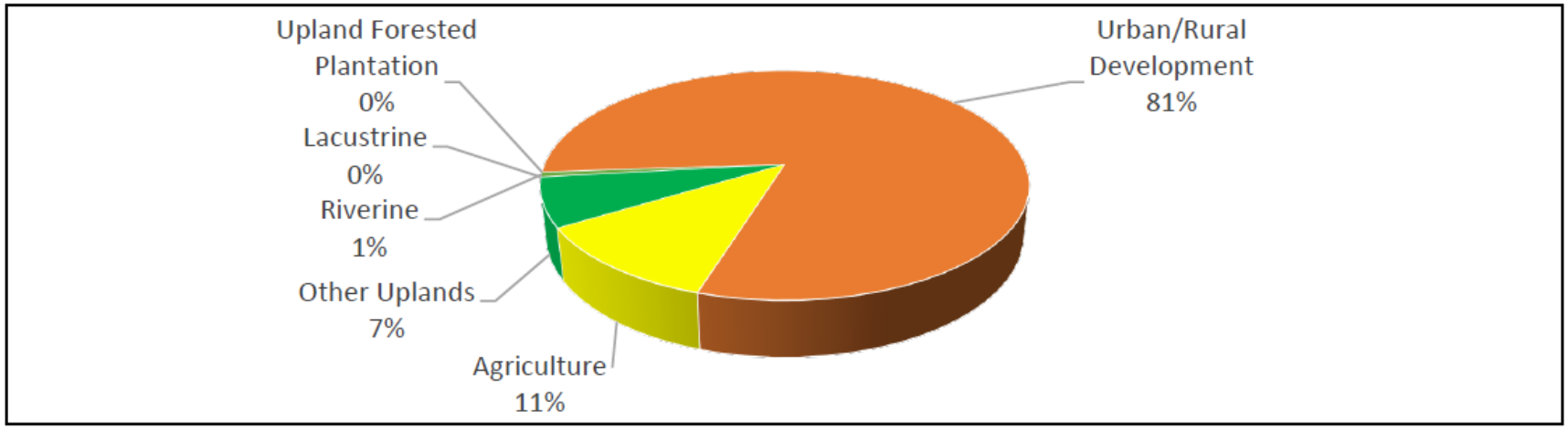


Figure 9. Causes of Net Willamette Valley Wetland Loss, 1994–2005

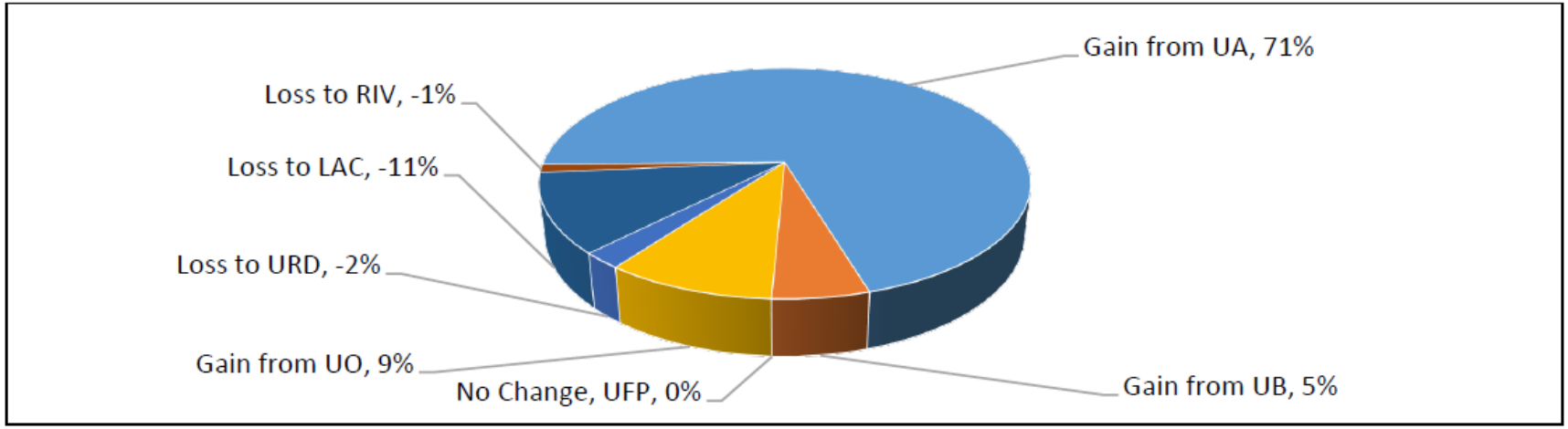


Figure 10. Causes of Net Willamette Valley Wetland Losses and Gains, 2005–2020

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