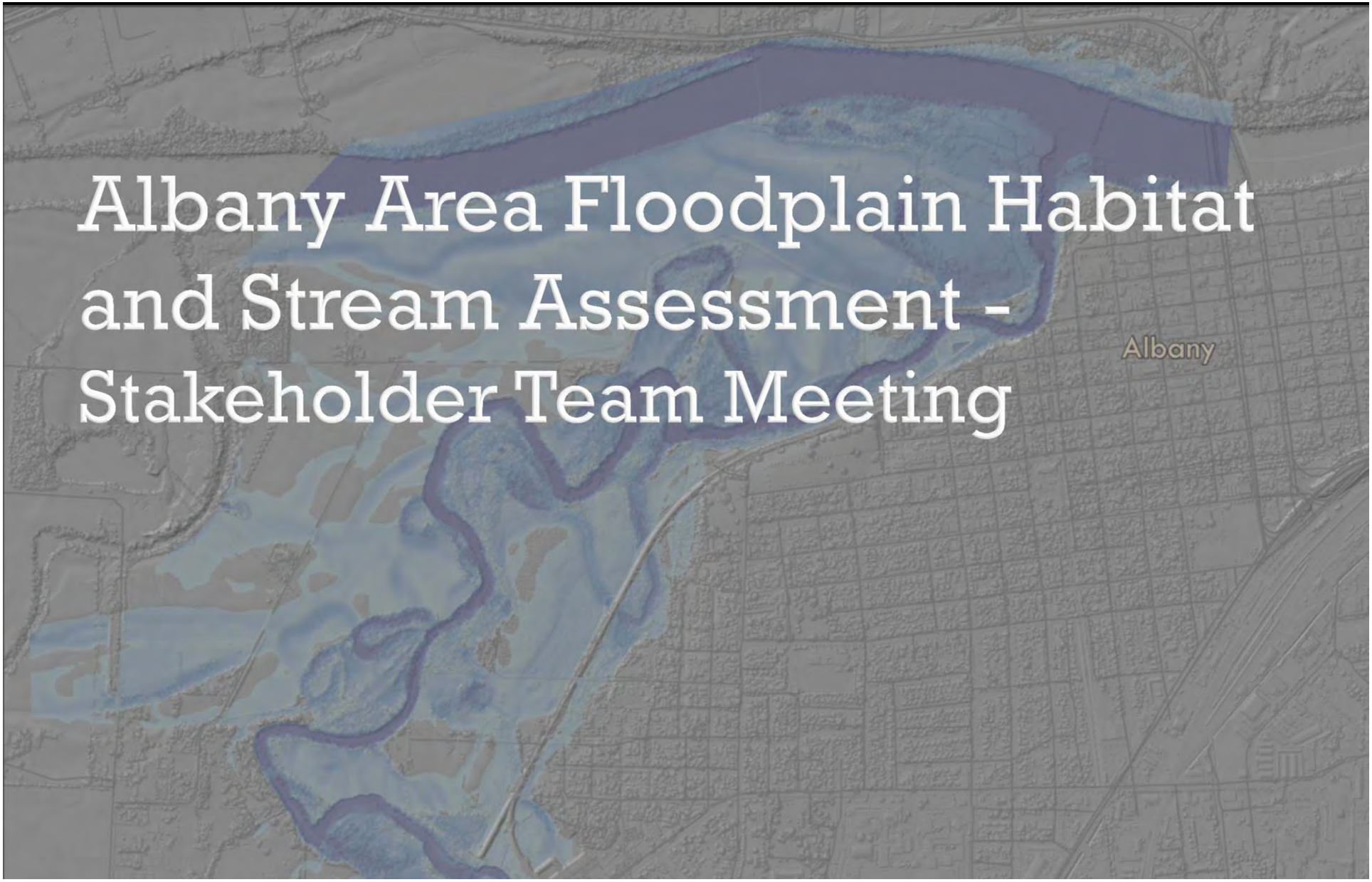
Albany Area Floodplain Habitat and Stream Assessment - Stakeholder Team Meeting



Troy Brandt
Peter Gruendike

River Design Group, Inc.

Presentation Outline

- Introductions
- Objectives of Meeting
- Willamette River Inundation Mapping
- Data Collection, Analysis and Maps
- Stakeholder Review
- Project Identification/Prioritization Framework
- Next Steps

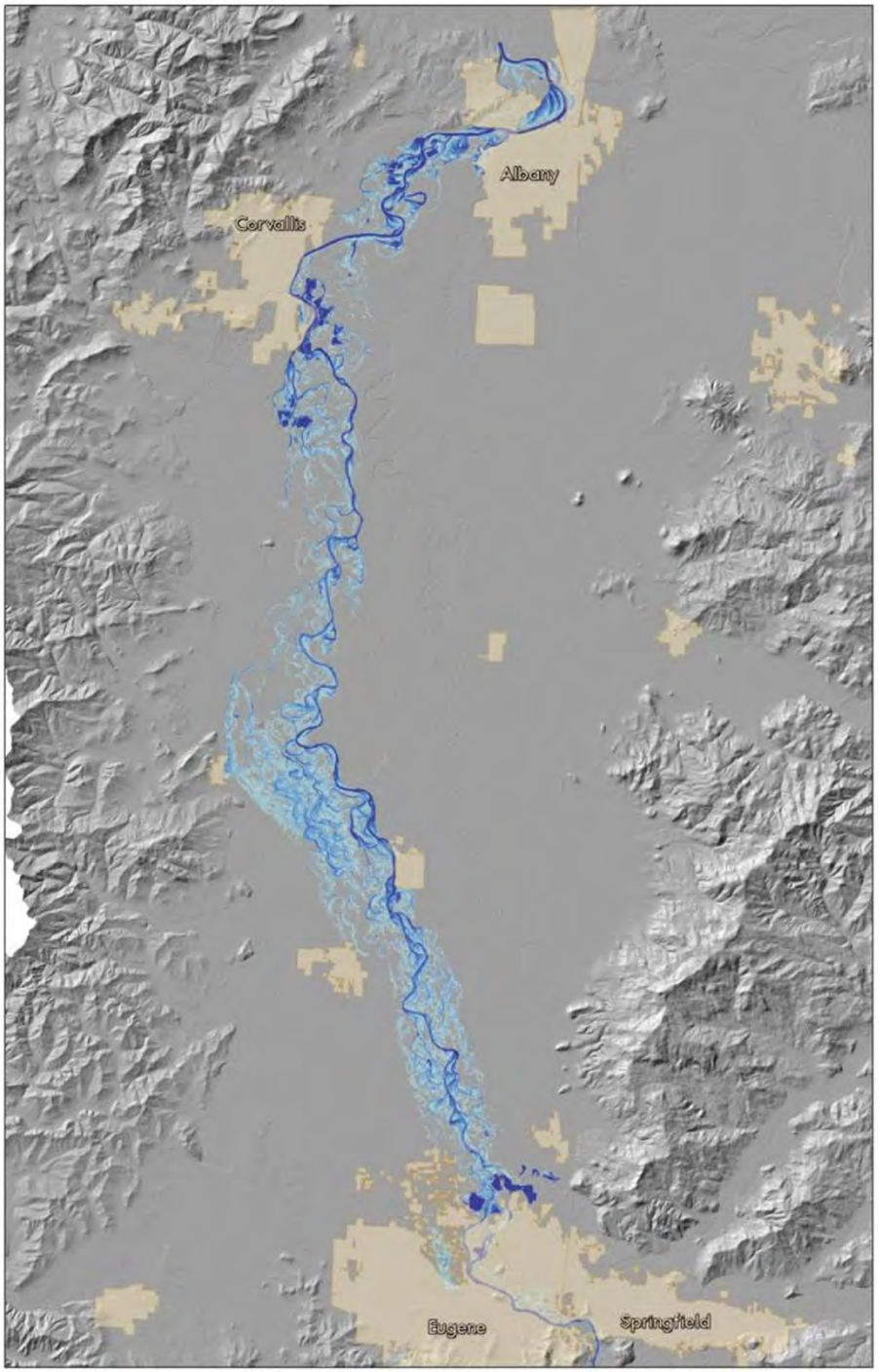
CWC and City of Albany Goals

- Enhance river corridor habitats for anadromous species
- Restore riparian function
- Involve local landowners in data collection, project prioritization

Willamette River Modeling

- RDG working with stakeholder group to provide flood inundation maps
- Tool for restoration planning
- Application to Albany reach
  - Inundation of floodplain habitats
  - Assist in prioritizing conservation/restoration opps.

Willam apping



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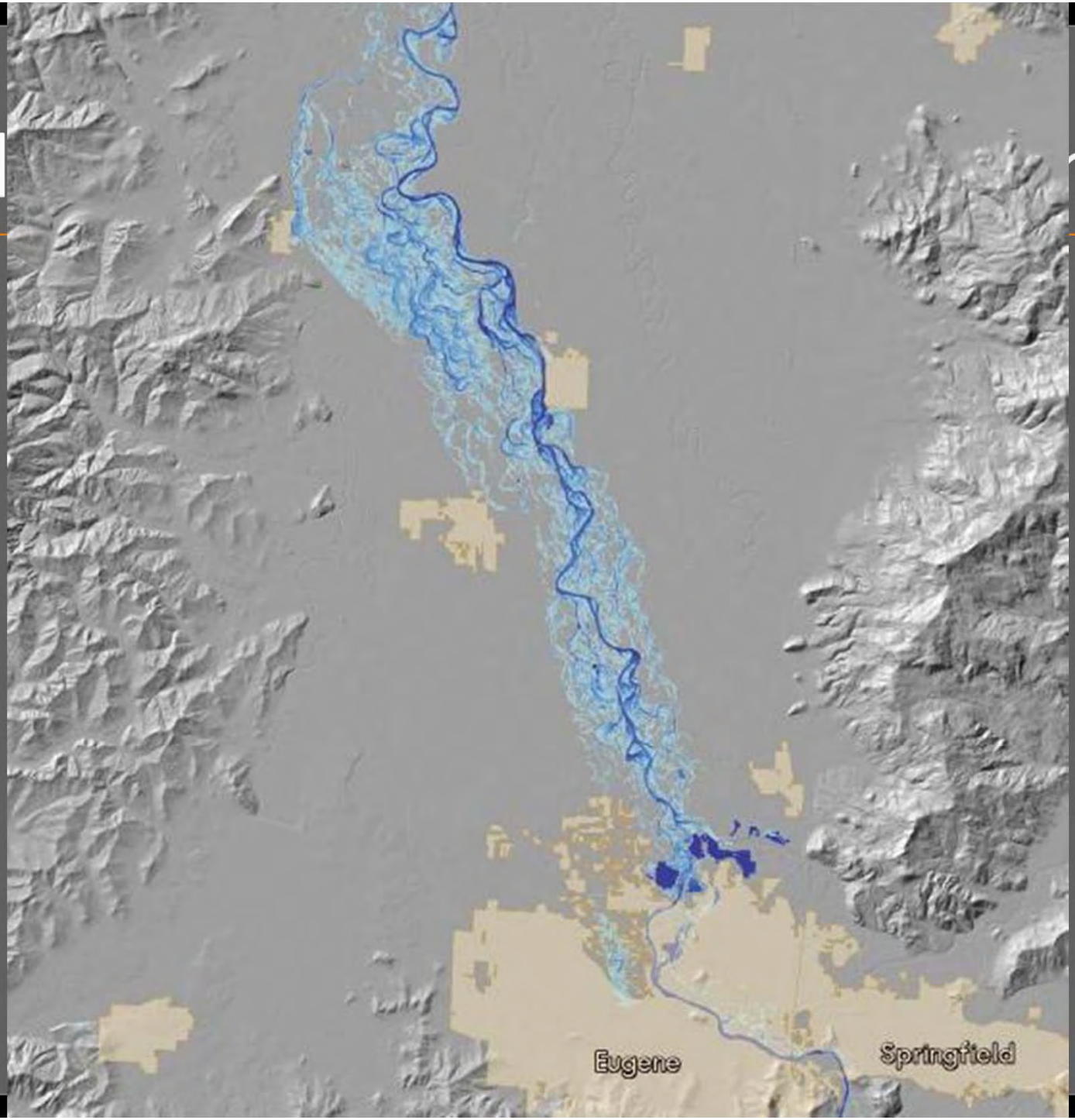

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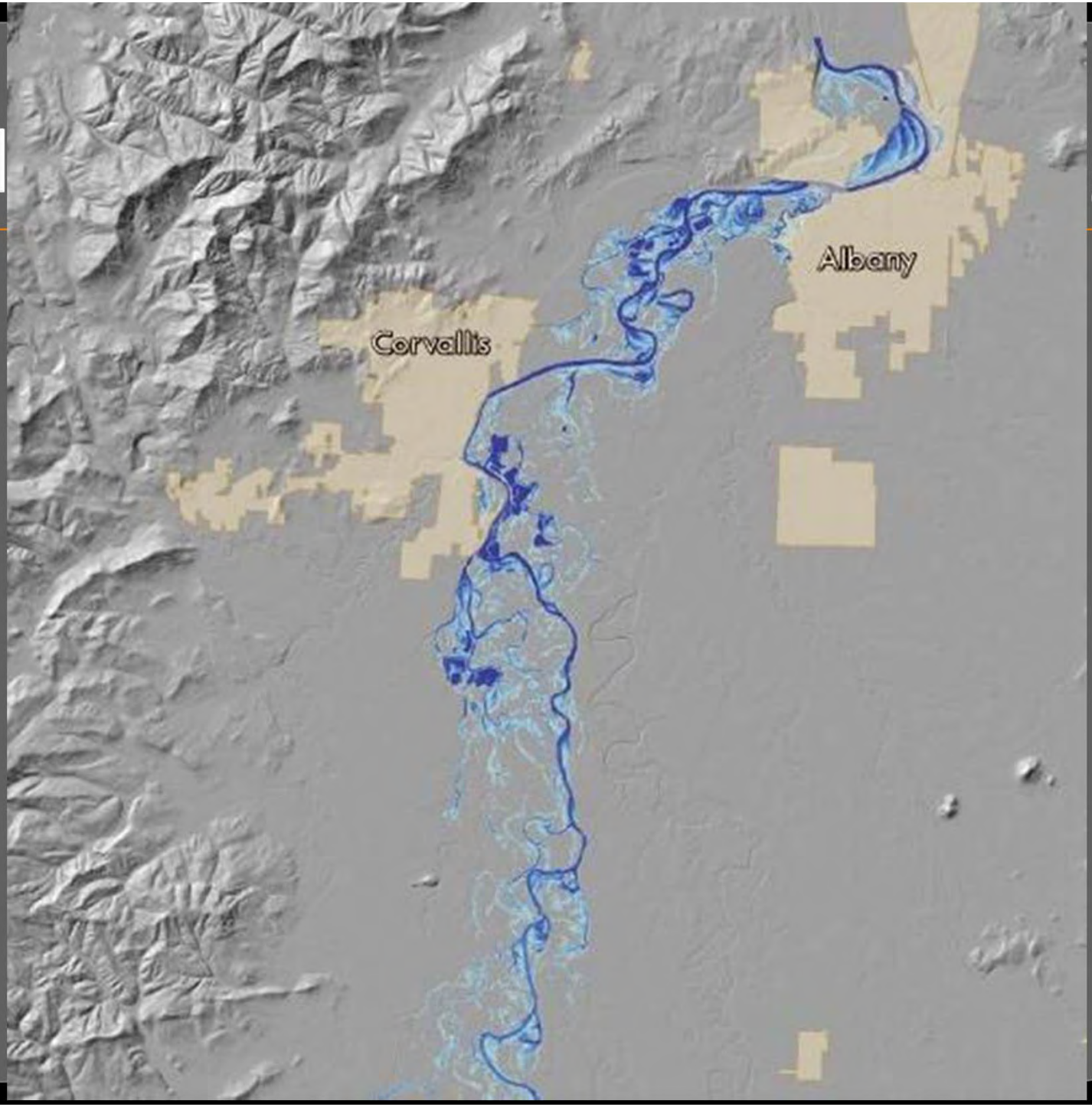
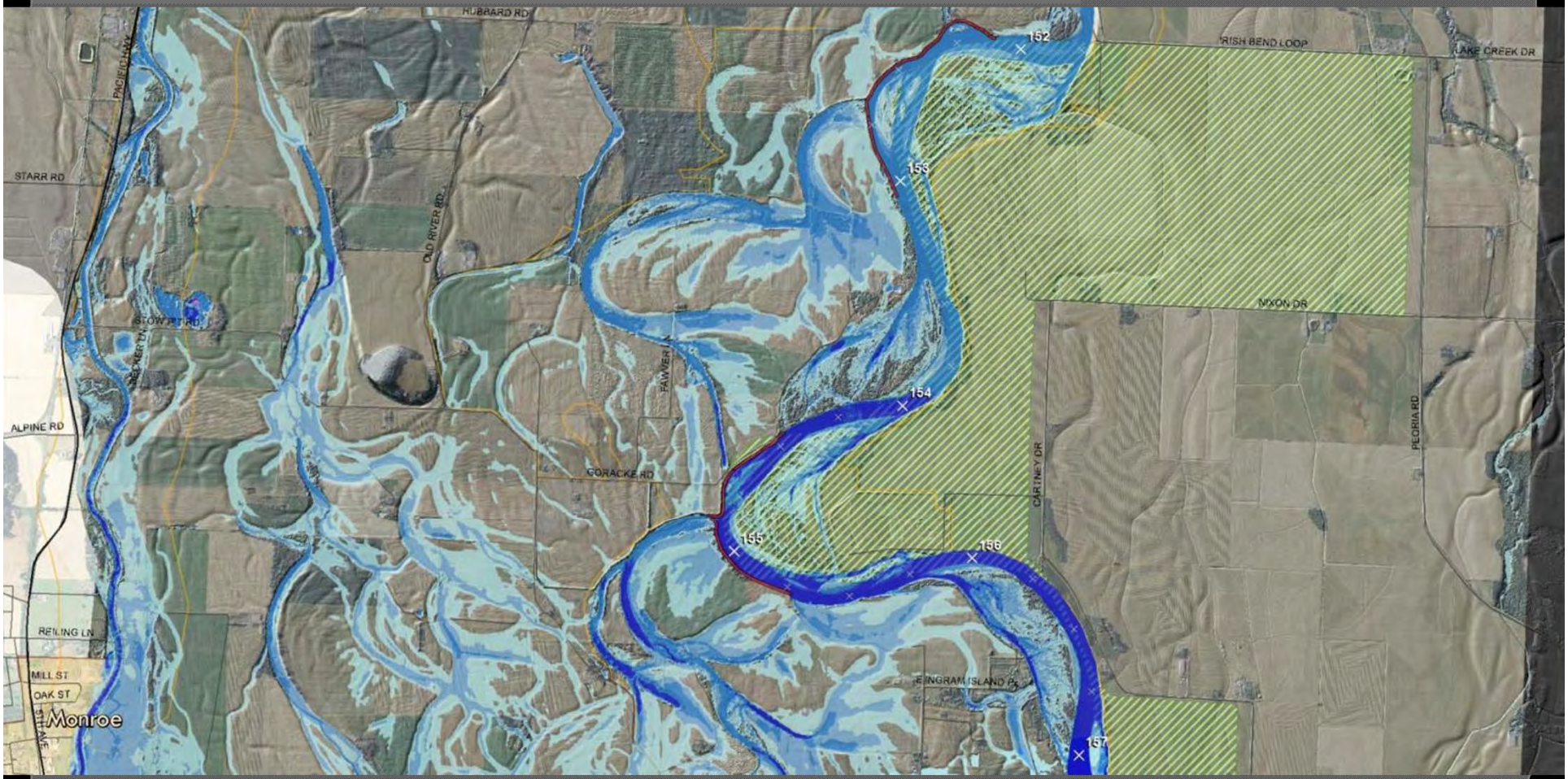
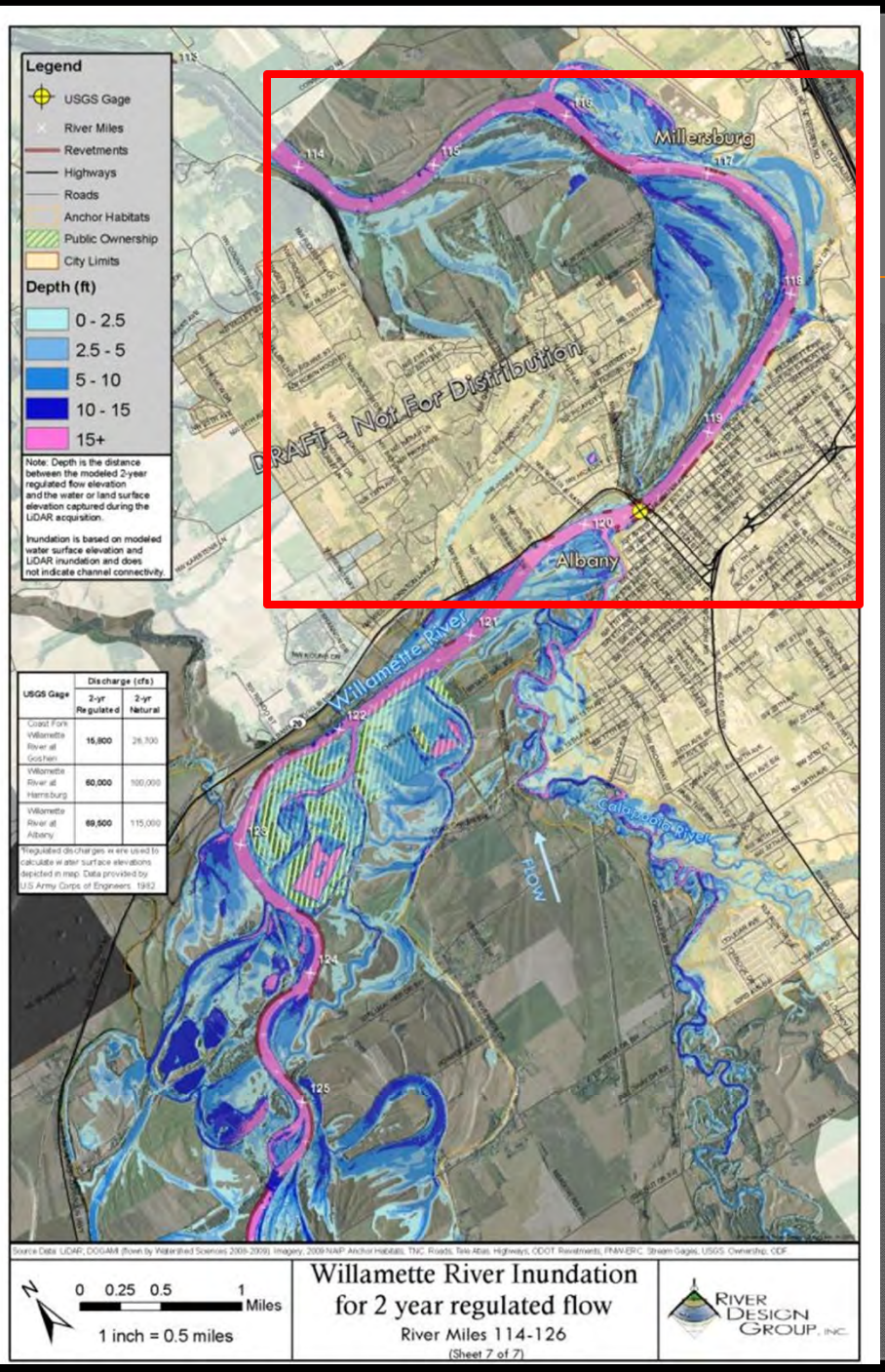
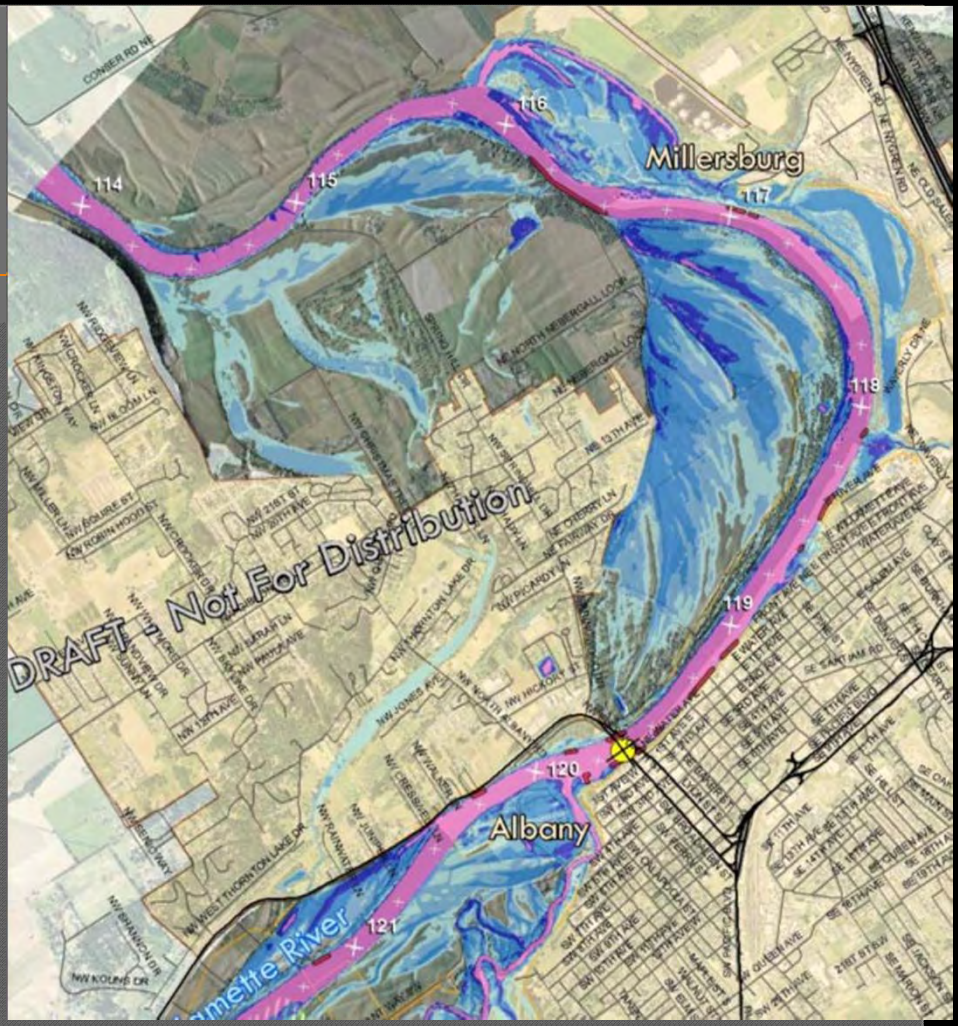


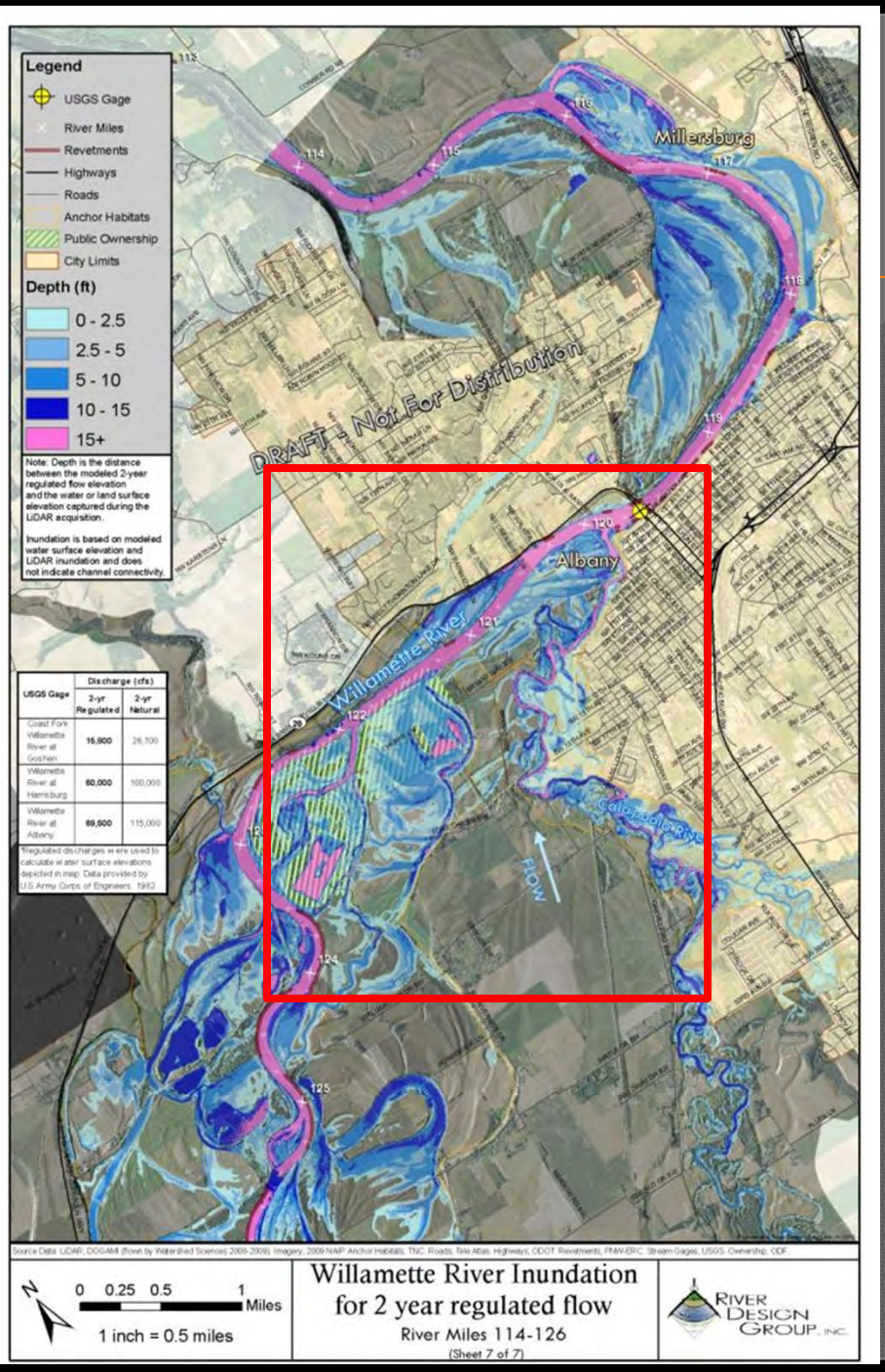
Channel-Floodplain Interaction

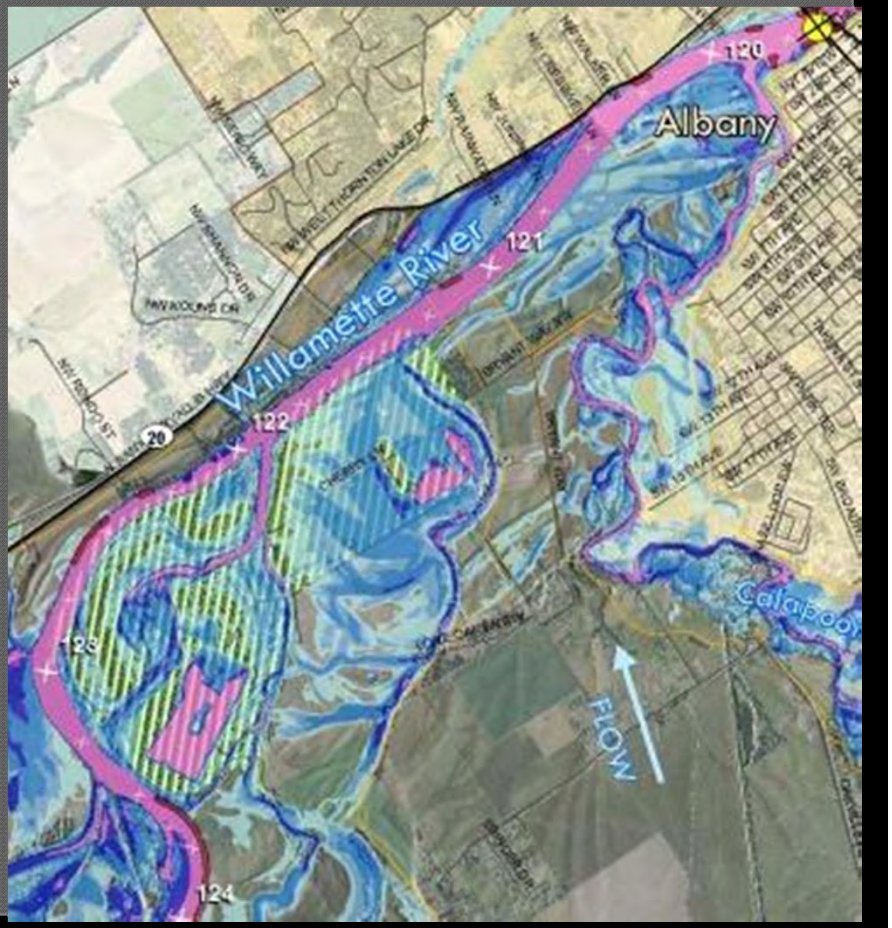



Legend
USGS Gage
River Miles
Revetments
Highways
Roads
Anchor Habitats
Public Ownership
City Limits
Depth (ft)
0 - 2.5
2.5 - 5
5 - 10
10 - 15
15+
Note: Depth is the distance between the modeled 2-year regulated flow elevation and the water or land surface elevation captured during the LiDAR acquisition.
Inundation is based on modeled water surface elevation and LiDAR inundation and does not indicate channel connectivity.
DRAFT - Not For Distribution
Millersburg
Albany
Willamette River
Calapooia River
FLOW
USGS Gage
Discharge (cfs)
2-yr Regulated
2-yr Natural
Coast Fork Willamette River at Goshen
15,800
26,700
Willamette River at Harrisburg
60,000
100,000
Willamette River at Albany
69,500
115,000
*Regulated discharges were used to calculate water surface elevations depicted in map. Data provided by US Army Corps of Engineers, 1982
Source Data: LiDAR; DOGAMI (flown by Watershed Sciences 2008-2009). Imagery, 2009 NAIP. Anchor Habitats, TNC. Roads, Tele Atlas. Highways, ODOT. Revetments, FMN-ERC. Stream Gages, USGS. Ownership, ODF.
0 0.25 0.5 1 Miles
1 inch = 0.5 miles
Willamette River Inundation for 2 year regulated flow
River Miles 114-126
(Sheet 7 of 7)
River Design Group, Inc.


DRAFT - Not For Distribution
Millersburg
Albany
Willamette River

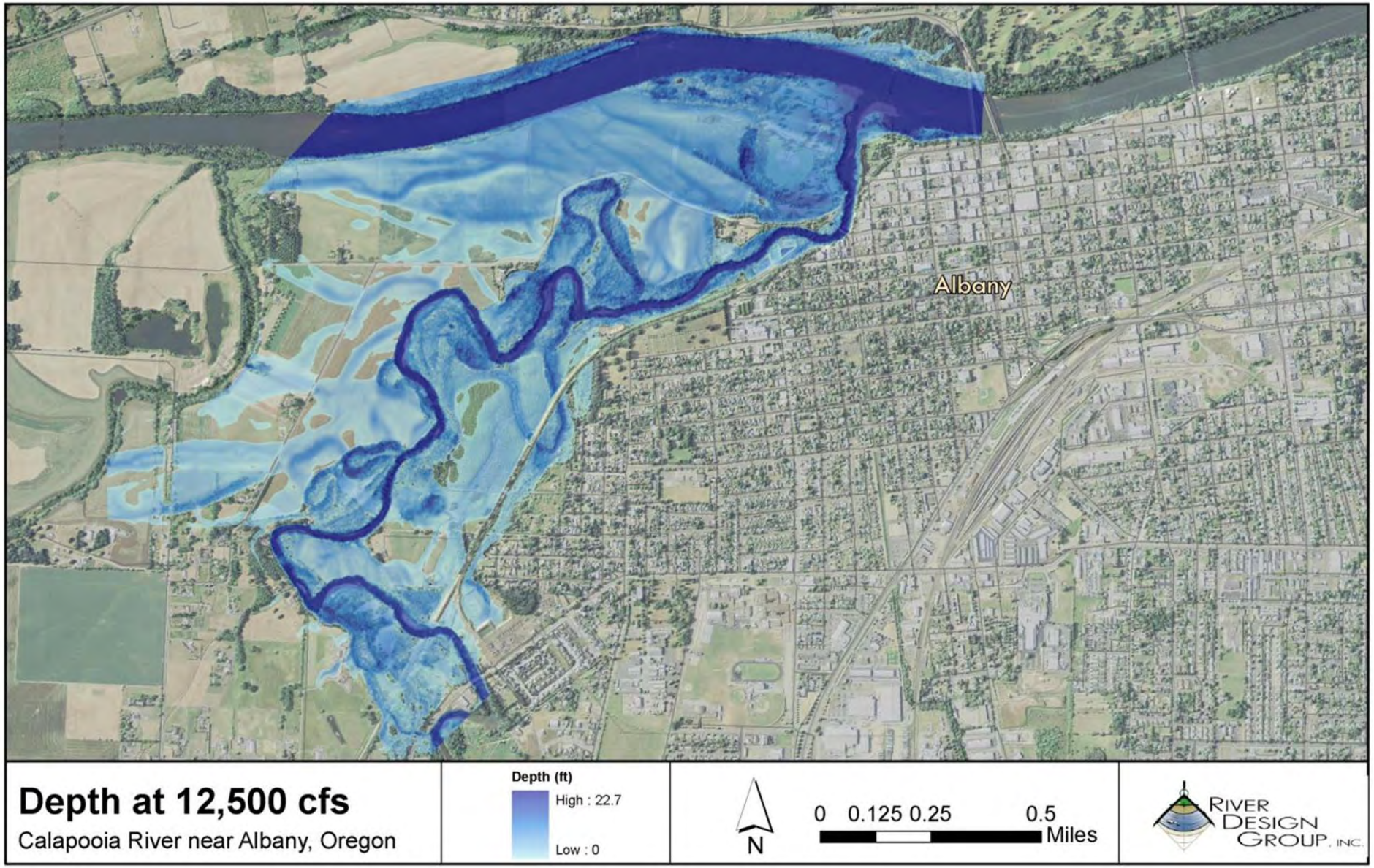
Albany Panel

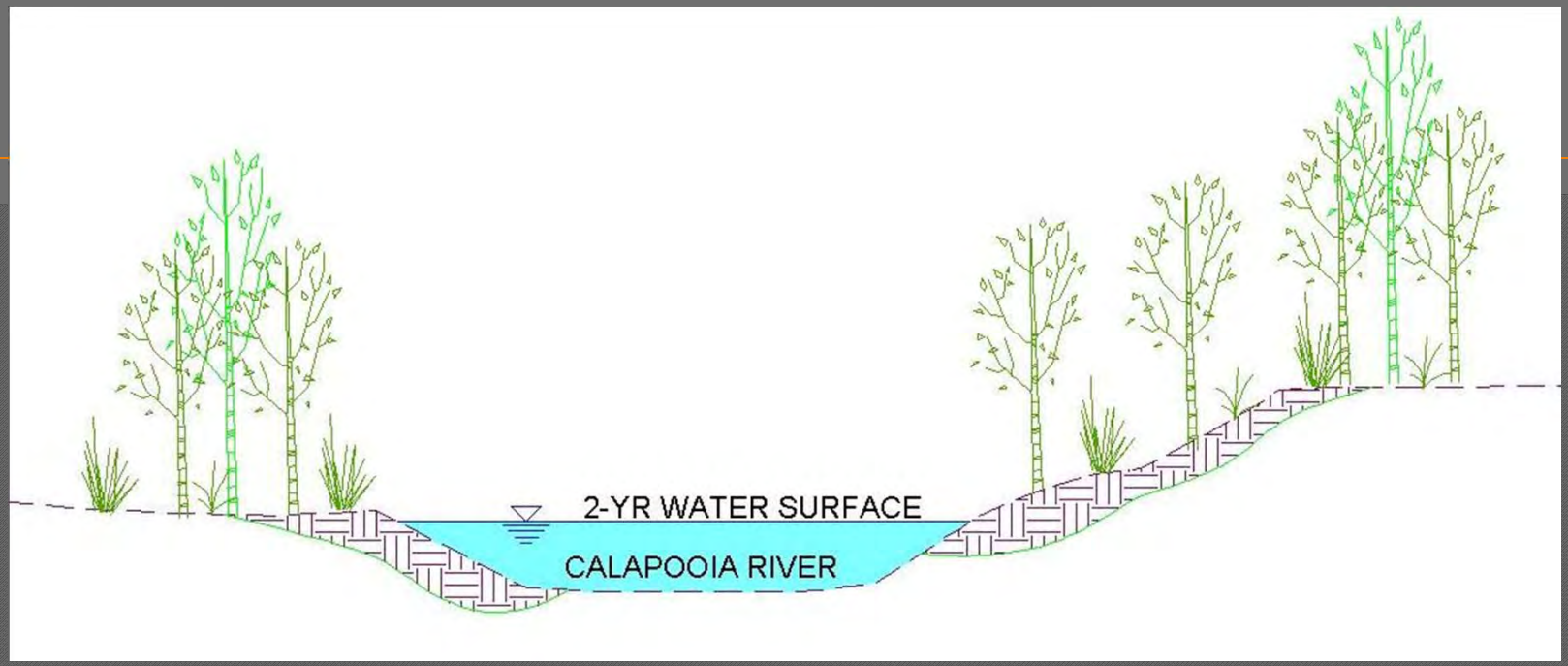


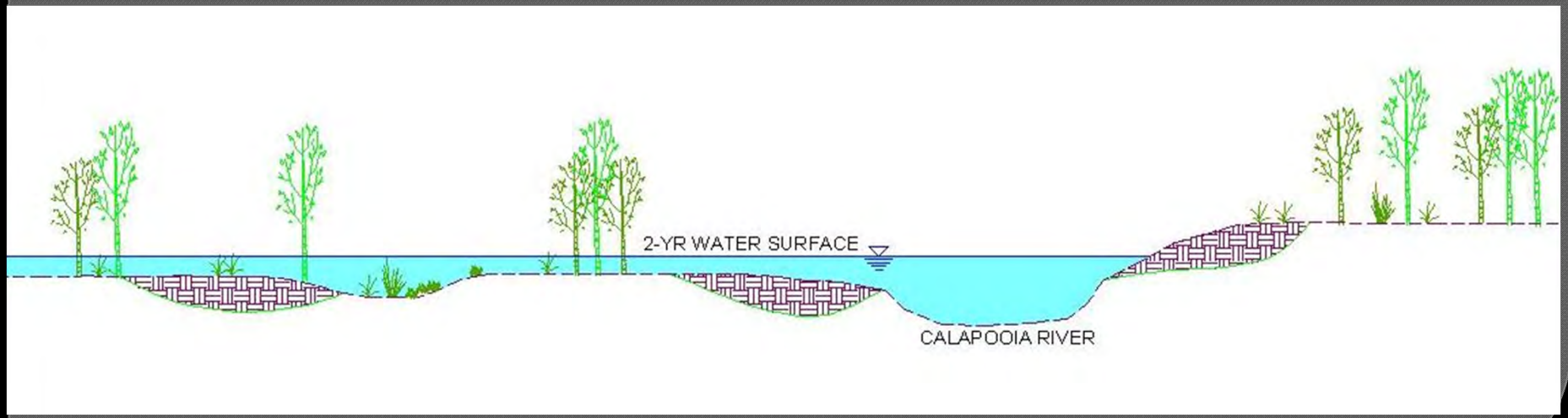


Calapooia River

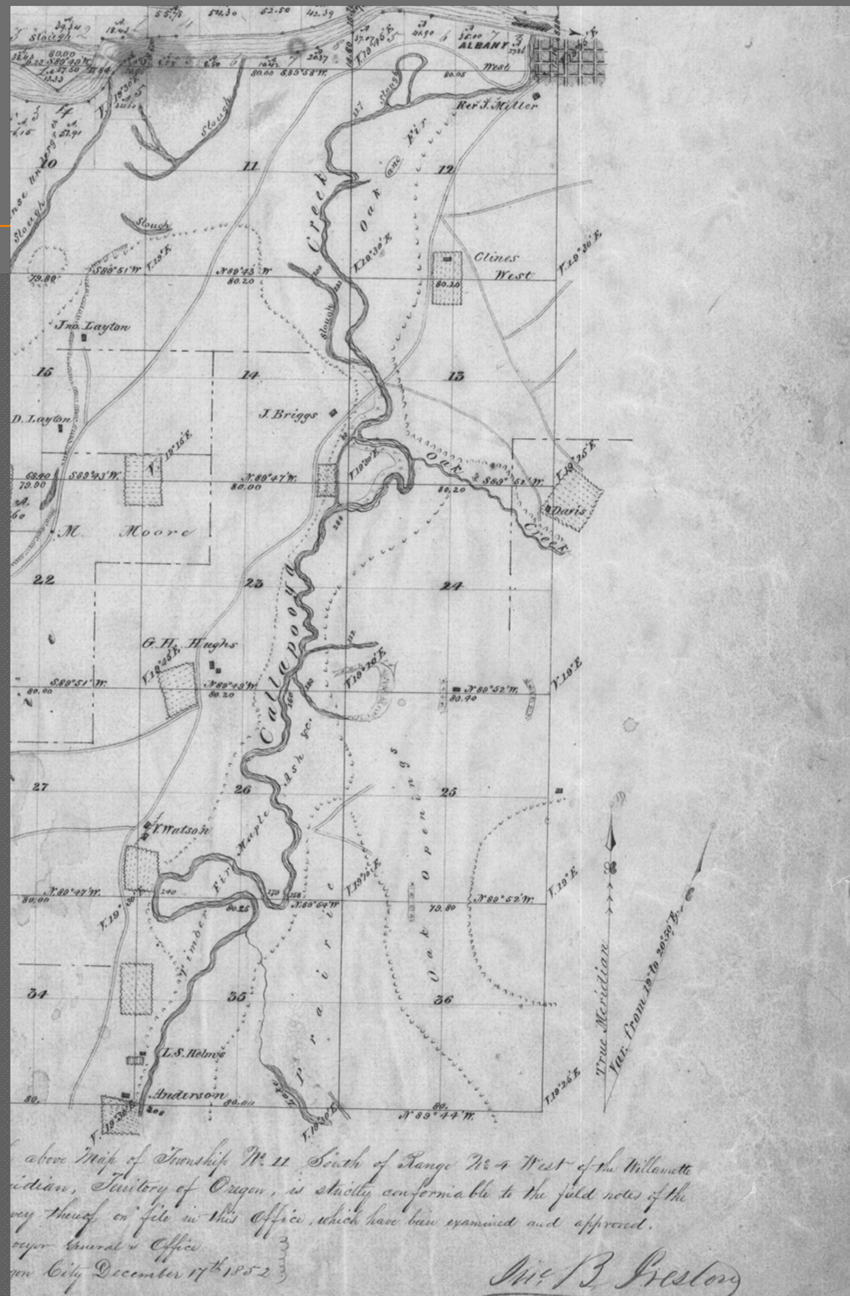
- Inundation mapping for 2-year event
- Historical air photo analysis


Albany
Depth at 12,500 cfs
Calapooia River near Albany, Oregon
Depth (ft)
High : 22.7
Low : 0
N
0 0.125 0.25 0.5
Miles
RIVER DESIGN GROUP, INC.


2-YR WATER SURFACE
CALAPOOIA RIVER

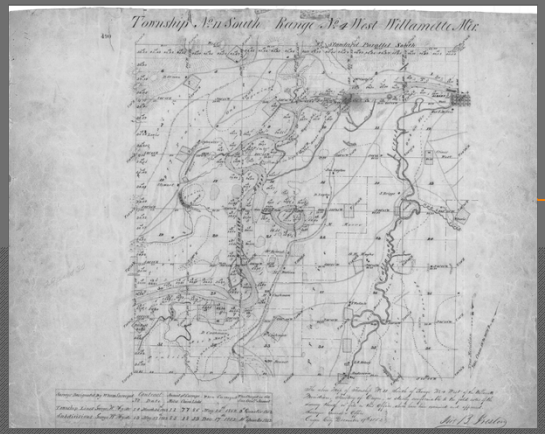

2-YR WATER SURFACE
CALAPOOIA RIVER

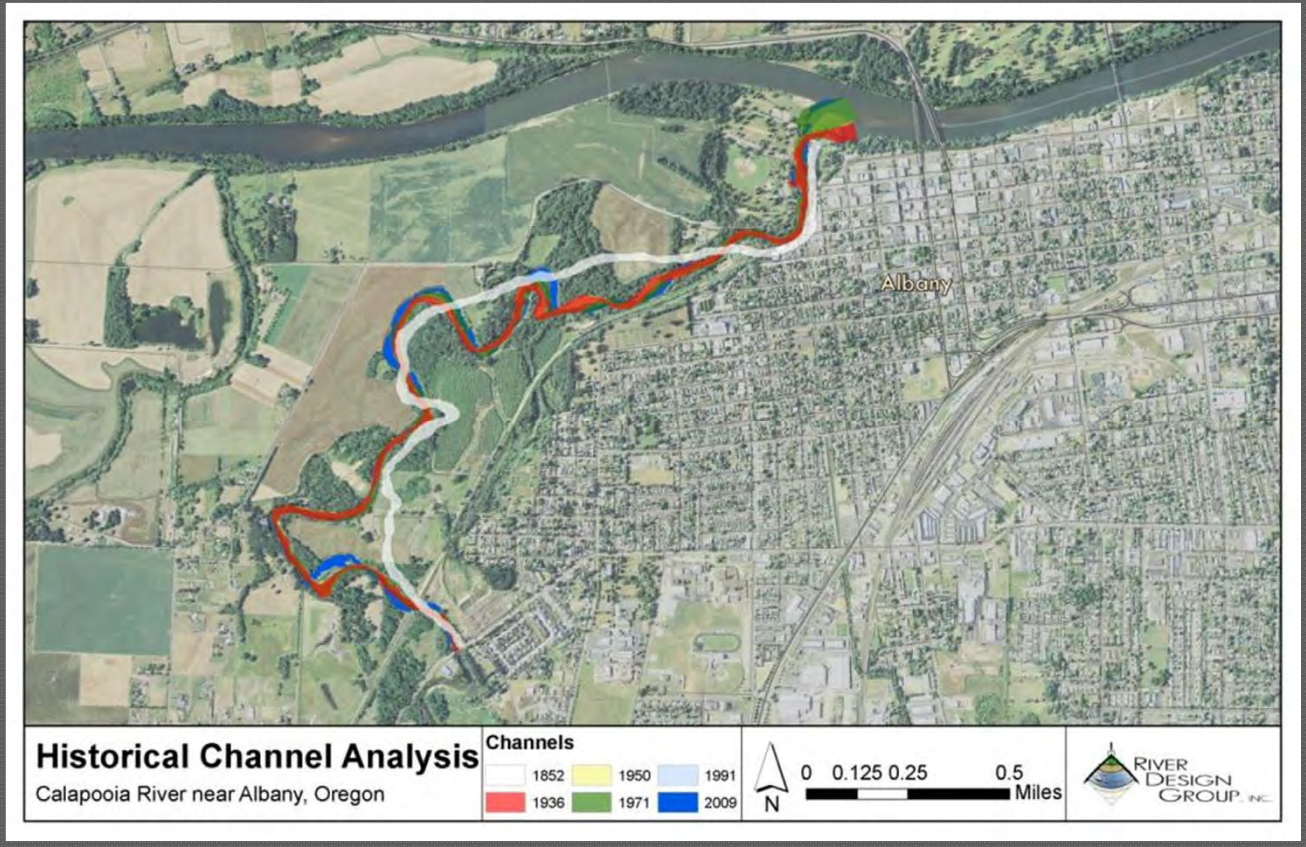
r Photos


ALBANY
Rev J. Miller
Clines
West
Jno. Layton
D. Layton
J. Briggs
M. Moore
G.W. Hughs
T. Watson
L.S. Helms
Anderson
Davis
Callapooya
Creek
Oak
Slough
True Meridian
above Map of Township No 11 South of Range No 4 West of the Willamette
idian, Territory of Oregon, is strictly conformable to the field notes of the
vey thereof on file in this Office, which have been examined and approved.
veyor General's Office
gon City December 17th 1852
Jno B. Preston


36-508

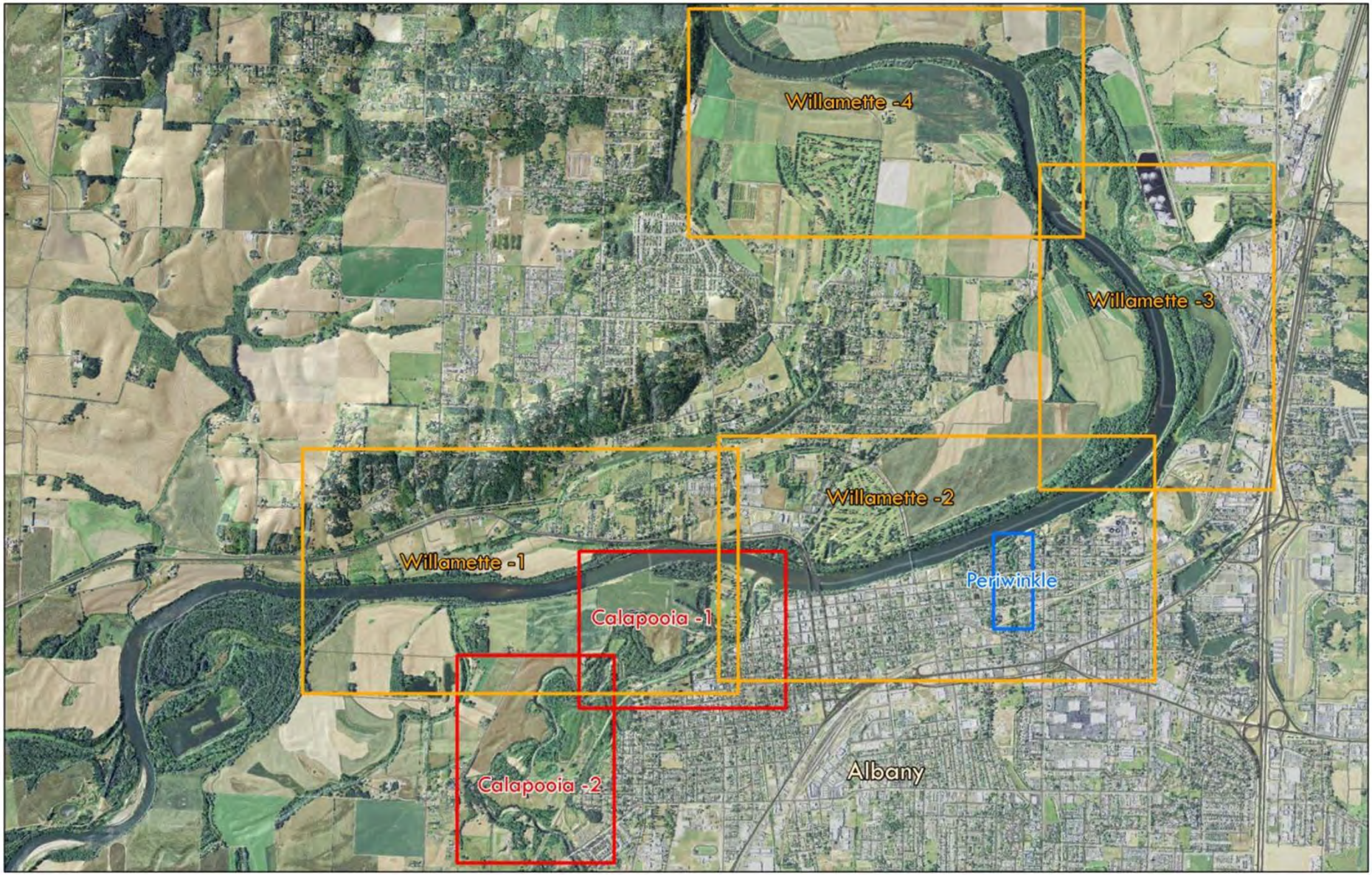
os


Township 9 South Range 4 West Willamette Mer.


Albany
Historical Channel Analysis
Calapooia River near Albany, Oregon
Channels
1852
1936
1950
1971
1991
2009
N
0 0.125 0.25 0.5
Miles
RIVER DESIGN GROUP, INC.

Field Assessment

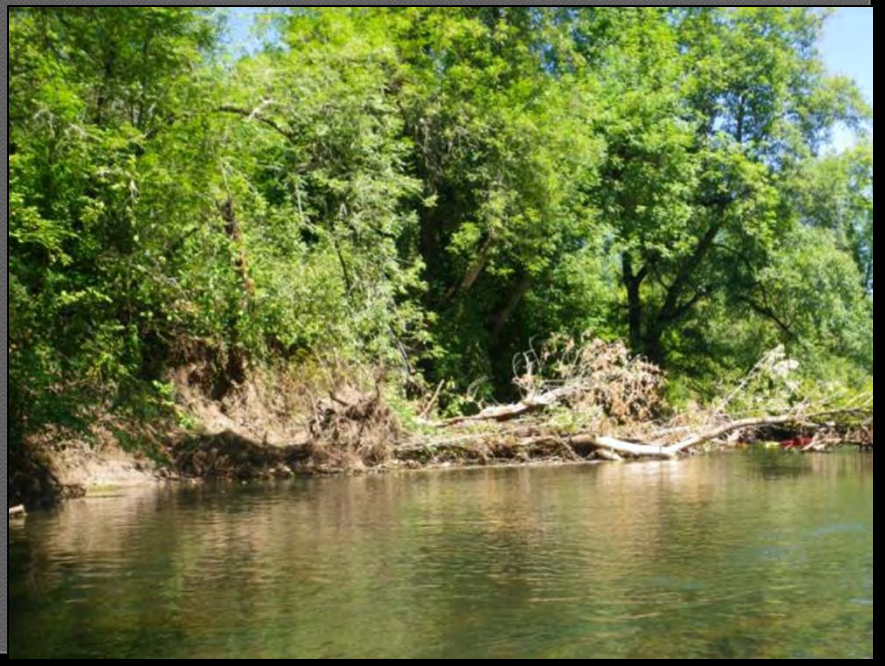
- Lower Calapooia River (~3 miles)
- Calapooia-Willamette confluence
- Periwinkle Creek confluence
- North Albany side channels and the Thornton Lake Natural Area
- Albany waste water treatment wetlands


Willamette -4
Willamette -3
Willamette -2
Willamette -1
Periwinkle
Calapooia -1
Calapooia -2
Albany

Field Data Collection

- CWC and City of Albany led effort
- Teams assessed conditions
- Provided field data and photos to RDG
- RDG completed float during high water
- Transfer to GIS platform for visualization

Field Photos

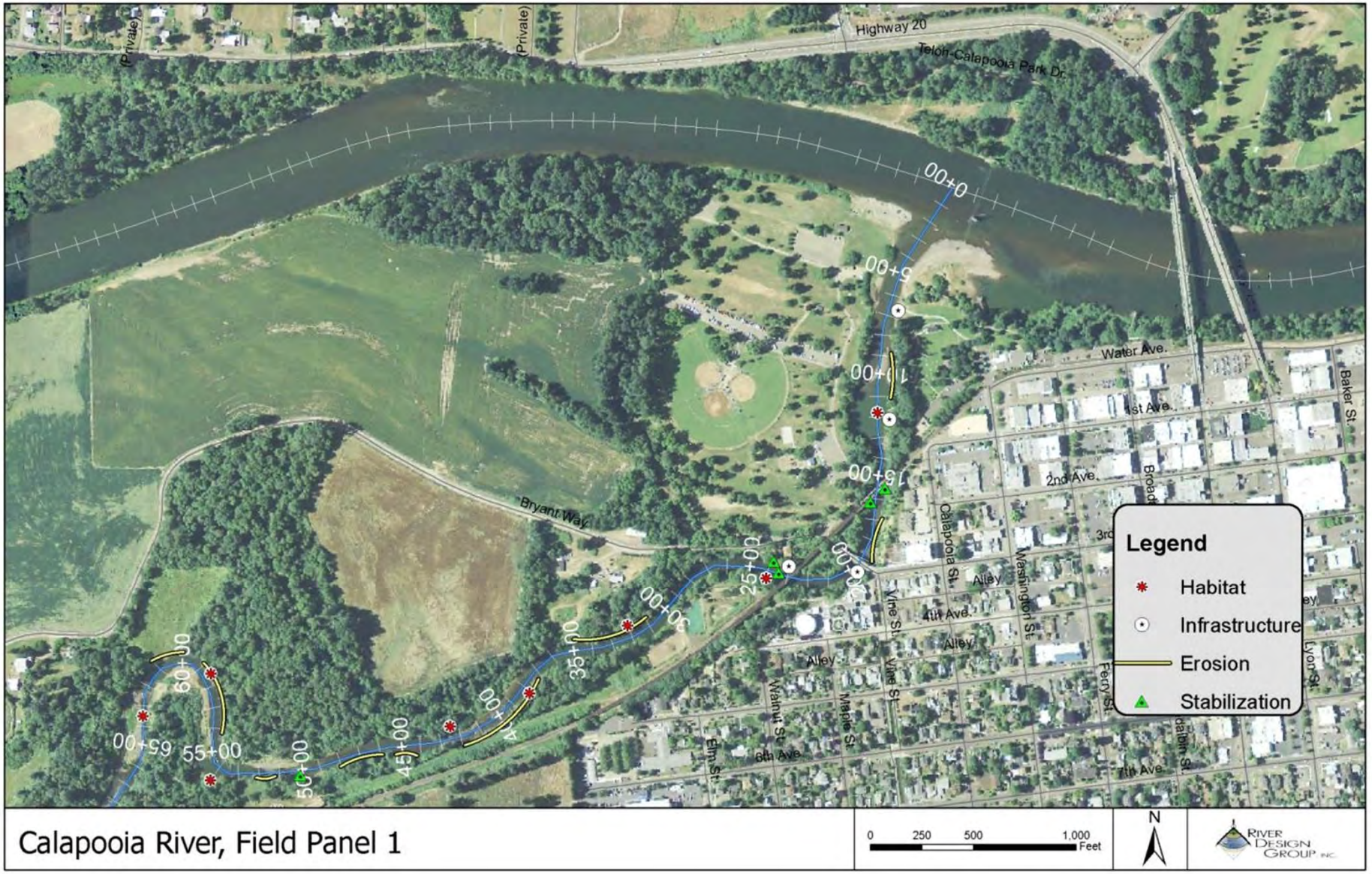


Data Synthesis

Pt_Number	Waterbody	Date	Note_Taker	Observer	Site_Type	Start_Sta	End_Sta	Waypoint	Location	Start_Photo	End_Photo
E1	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	165	165		RR	1256	1251
E2	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	160	155		RL	1252	1251
E3	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	151	145		RR	1249	1245
E4	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	133	133		RL	1233	
E5	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	126	120		RR	1229	1223
E6	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	120	117		RR	1224	
E7	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	114	114		RL	1222	
E8	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	103	103		RR	1219	
E9	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	101	101		RR	1217	
E10	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	96	93		RL	1213	
E11	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	87	87		RL	1207	
E12	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	84	84		RL	1205	
E13	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	74	74		RR	1203	
E14	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	61	60		RL	1199	
E15	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	59	54		RL	1198	
E16	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	52	0			1194	
E17	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	48	48		RR	1193	
E18	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	45	45		RR	1191	
E19	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	42	34		RR	1190	1189
E20	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	35	32		RL	1187	
E21	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	19	17		RR	1177	1176
E22	Calapooia	8/3/2010	Pam Archer	Tara Davis	E	11	9		RR	1175	
H1	Calapooia	8/3/2010	Alex Farrand	Karen Hans	H	168		100	RR	863	
H2	Calapooia	8/3/2010	Alex Farrand	Karen Hans	H	161		101	RL	864	
H3	Calapooia	8/3/2010	Alex Farrand	Karen Hans	H	159		102	RL	865	
H4	Calapooia	8/3/2010	Alex Farrand	Karen Hans	H	161		103	RR	866	
H5	Calapooia	8/3/2010	Alex Farrand	Karen Hans	H	156		104	RL	867	
H6	Calapooia	8/3/2010	Alex Farrand	Karen Hans	H	156		105	RC	868	
H7	Calapooia	8/3/2010	Alex Farrand	Karen Hans	H	151		106	RL	869	

nthesis


Legend
Habitat
Infrastructure
Erosion
Stabilization
Bryant Way
Bryant Dr.
Calapooia River, Field Panel 2
0 225 450 900 Feet
N
River Design Group


Highway 20
Teloh-Calapooia Park Dr.
(Private)
(Private)
Water Ave.
1st Ave.
2nd Ave.
3rd
4th Ave.
Alley
6th Ave.
7th Ave.
Baker St.
Broadalbin St.
Lyon St.
Ferry St.
Vine St.
Maple St.
Walnut St.
Elm St.
Calapooia St.
Washington St.
Bryant Way
0+00
5+00
10+00
15+00
20+00
25+00
30+00
35+00
40+00
45+00
50+00
55+00
60+00
65+00
Legend
Habitat
Infrastructure
Erosion
Stabilization
Calapooia River, Field Panel 1
0
250
500
1,000
Feet
N
River Design Group, Inc.


Legend
Habitat
Infrastructure
Erosion
Stabilization
Bryant Way
Bryant Dr.
15th Ave
16th Ave
17th Ave
Gilbert Ave
Orchard Ln
Chase Ln
(Private)
Calapooia River, Field Panel 2
0 225 450 900 Feet
N
River Design Group, Inc.


Legend
taxlots
Bank
Wetland
Riparian
Off Channe
Calapooia River, Field Panel 2
0 250 500 1,000 Feet
N
River Design Group, Inc.

Project Prioritization Framework

- Prioritize projects based on big picture goals
  - Channel-floodplain connectivity
  - Off-channel habitat access
  - Flood storage
  - Determine cost – benefit of project categories

Calapooia Summary

- Large wood complexes and side channel habitat
- Intact riparian corridor
- Dynamic floodplain habitats
- Eroding banks at perimeter of CMZ
- Opportunities
  - Expand riparian zone
  - Enhance off-channel habitats
  - Stabilize banks for utility protection

nthesis


Legend
Habitat
Infrastructure
Stabilization
Erosion
0+00
5+00
10+00
15+00
20+00
25+00
30+00
Front Ave.
Water Ave.
1st Ave.
2nd Ave.
Salem Ave.
Santiam Rd.
Oak St.
Harrison St.
Cleveland St.
Denver St.
Geary St.
Pine St.
Mason St.
Periwinkle Creek, Field Panel
0 110 220 440 Feet
N

Periwinkle Conclusions

- Urbanized stream with likely limited upstream habitat potential
- Confluence area beneficial for juveniles and adults
- Clean up and education greatest opportunities
- Fish ladder appears to be operational

Willamette River, Field Panel 3

0 375 750 1,500 Feet

Willamette River, Field Panel 4

0 375 750 1,500 Feet

Willamette River Conclusions

- Quality channel margin habitat – LWD & veg
- Invasive species, old stabilization projects
- Assessment on North Albany Ponds and Thornton Lake Area yet to be completed