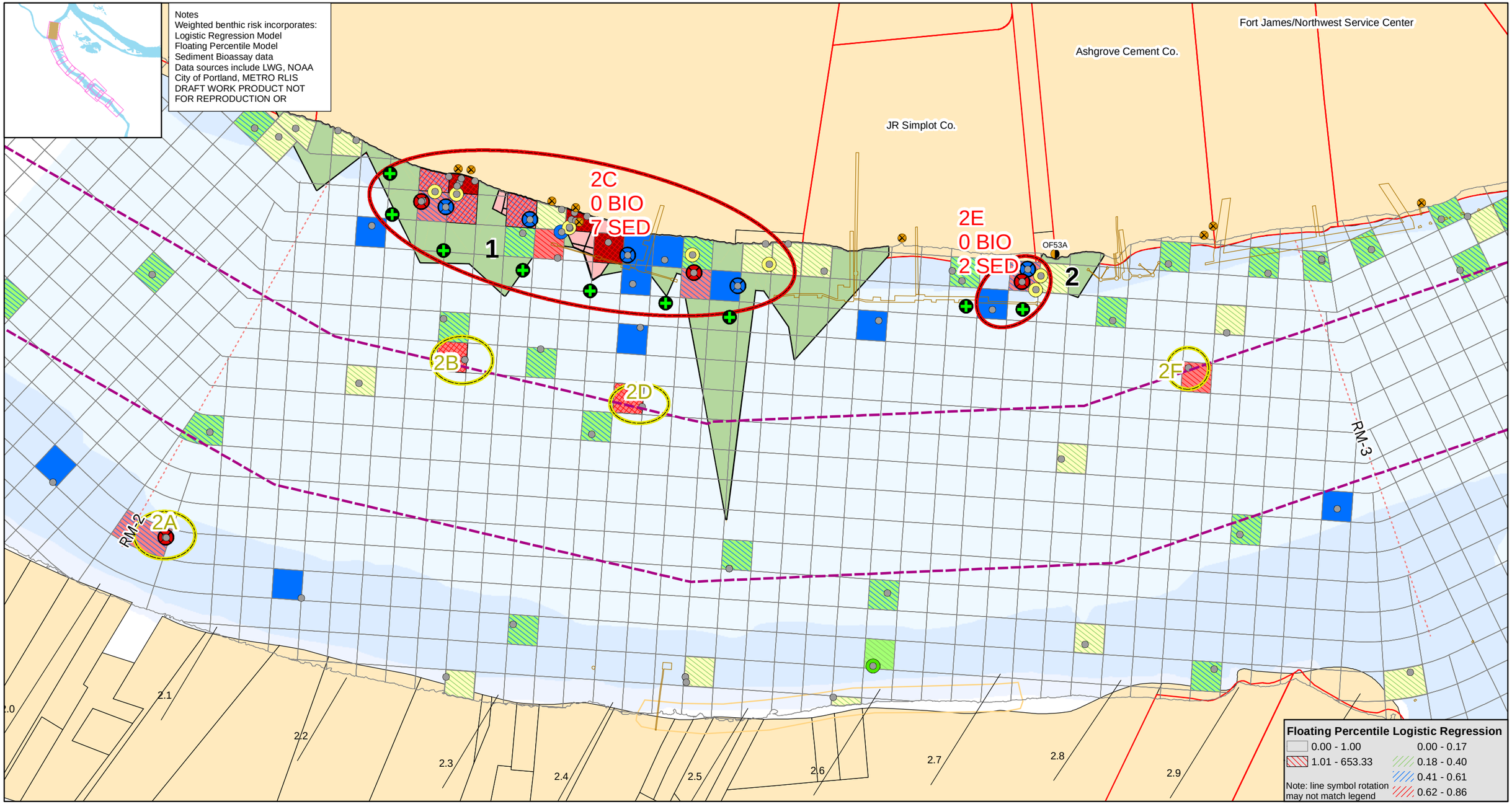


Sediment Bioassay

ALL_TOX

- > 90%
- 80-90%
- 70 - 80%
- < 70%

Hyalella 28 day Growth Only

- 70 - 80%
- < 70%

Proposed 06/01/2007

Sample Type

- Bioassay and Surface Sediment
- Surface Sediment Only
- LWG_FSP_Round3B_Proposed

Potential Risk Areas

Course of Action

- POTENTIAL DATA GAP (RD 3B)
- AREA OF INTEREST
- NO ACTION

Weighted Benthic Risk

- *No surface sediment/toxicity data*
- Not Likely
- Low
- Medium
- High
- Very High

- All benthic risk stations
- Initial Areas of Potential Concern (LWG)

LWG Benthic iAOPC

BNTH_RECPT

- 0 (Other Lines)
- 1 (Benthic Line)
- AOPC_v3_draft

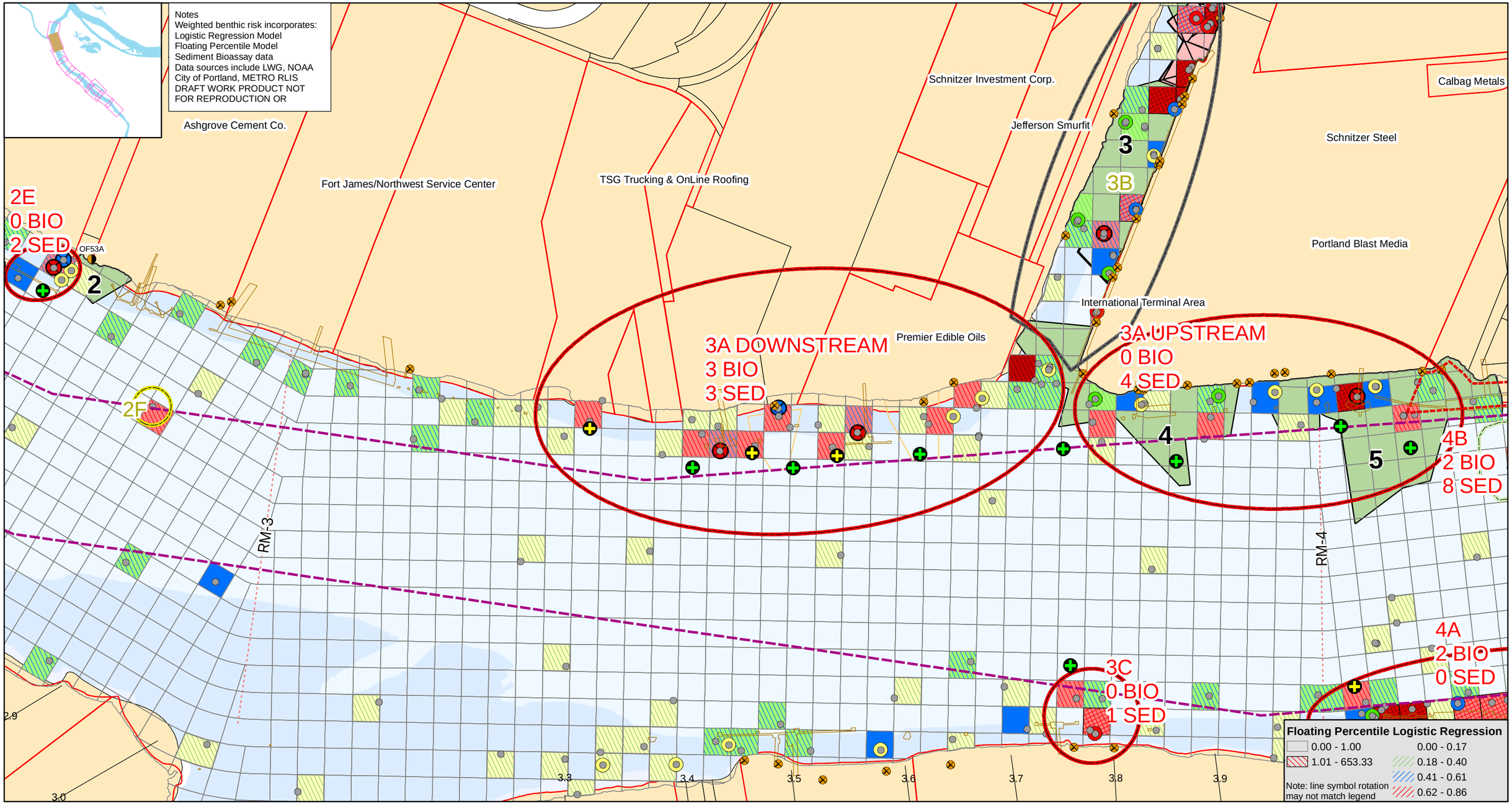
Outfalls

- <all other values>
- City of Portland
- Navigation Channel (NOAA)
- Dock Structures
- Bridges
- CSM Taxlots 20040427

Proposed Rd 3B: River Miles 2-3 Bioassay & Surface Sediment Sampling

See NOAA tech memo for benthic risk scaling methodology

NOAA ARD 06/07/2007



Sediment Bioassay

ALL_TOX

- > 90%
- 80-90%
- 70 - 80%
- < 70%

Hyalella 28 day Growth Only

- 70 - 80%
- < 70%

Proposed 06/01/2007

Sample Type

- Bioassay and Surface Sediment
- Surface Sediment Only
- LWG_FSP_Round3B_Proposed

Potential Risk Areas

Course of Action

- POTENTIAL DATA GAP (RD 3B)
- AREA OF INTEREST
- NO ACTION

Weighted Benthic Risk

- *No surface sediment/toxicity data*
- Not Likely
- Low
- Medium
- High
- Very High

- All benthic risk stations
- Initial Areas of Potential Concern (LWG)

LWG Benthic iAOPC

BNTH_RECPT

- 0 (Other Lines)
- 1 (Benthic Line)
- AOPC_v3_draft

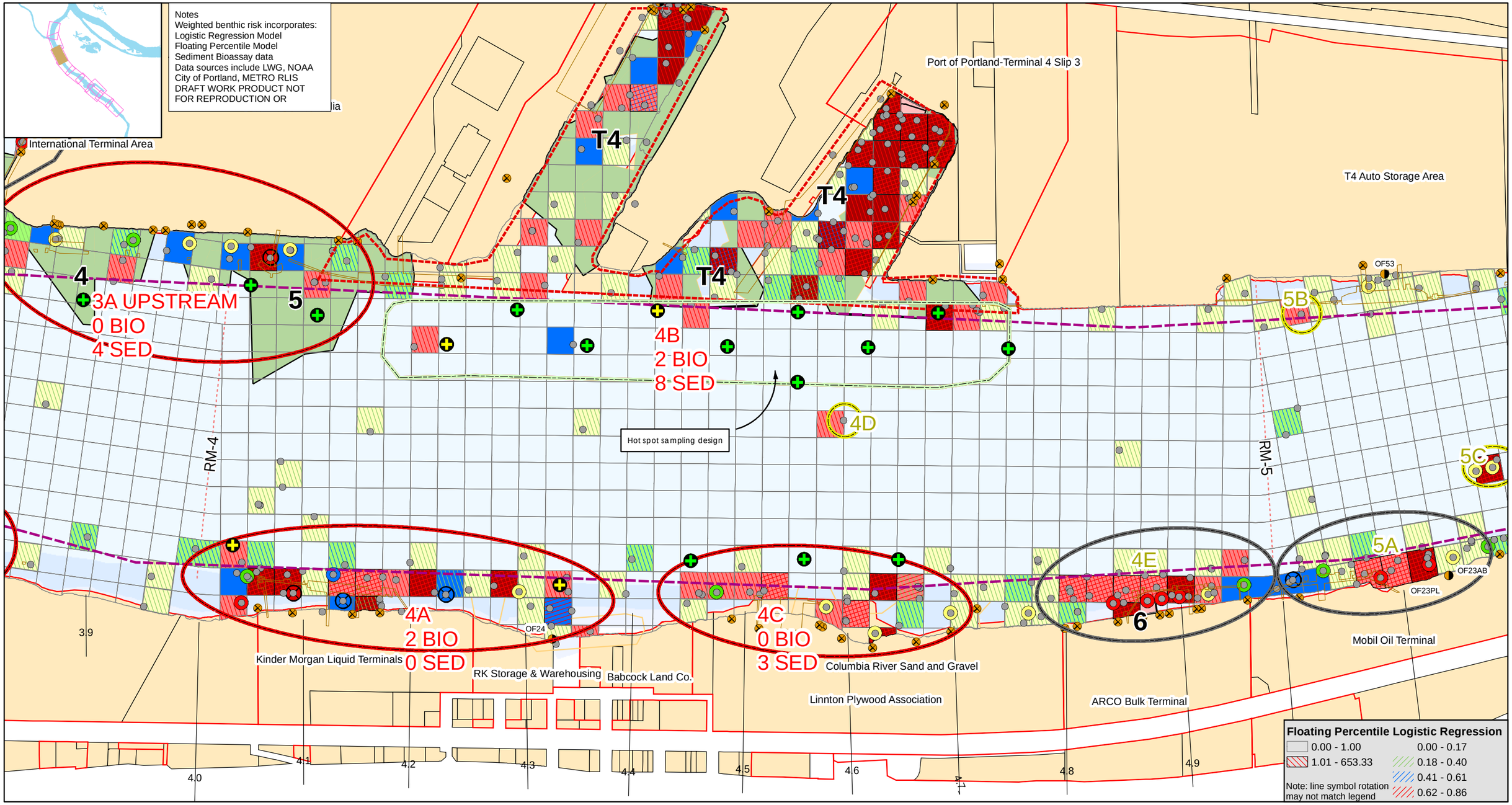
Outfalls

- <all other values>
- City of Portland
- Navigation Channel (NOAA)
- Dock Structures
- Bridges
- CSM Taxlots 20040427

Proposed Rd 3B: River Miles 3-4 Bioassay & Surface Sediment Sampling

See NOAA tech memo for benthic risk scaling methodology

NOAA ARD 06/07/2007



Sediment Bioassay

ALL_TOX

- > 90%
- 80-90%
- 70 - 80%
- < 70%

Hyalella 28 day Growth Only

- 70 - 80%
- < 70%

Proposed 06/01/2007

Sample Type

- Bioassay and Surface Sediment
- Surface Sediment Only
- LWG_FSP_Round3B_Proposed

Potential Risk Areas

Course of Action

- POTENTIAL DATA GAP (RD 3B)
- AREA OF INTEREST
- NO ACTION

Weighted Benthic Risk

- *No surface sediment/toxicity data*
- Not Likely
- Low
- Medium
- High
- Very High

- All benthic risk stations
- Initial Areas of Potential Concern (LWG)

LWG Benthic iAOPC

BNTH_RECPT

- 0 (Other Lines)
- 1 (Benthic Line)
- AOPC_v3_draft

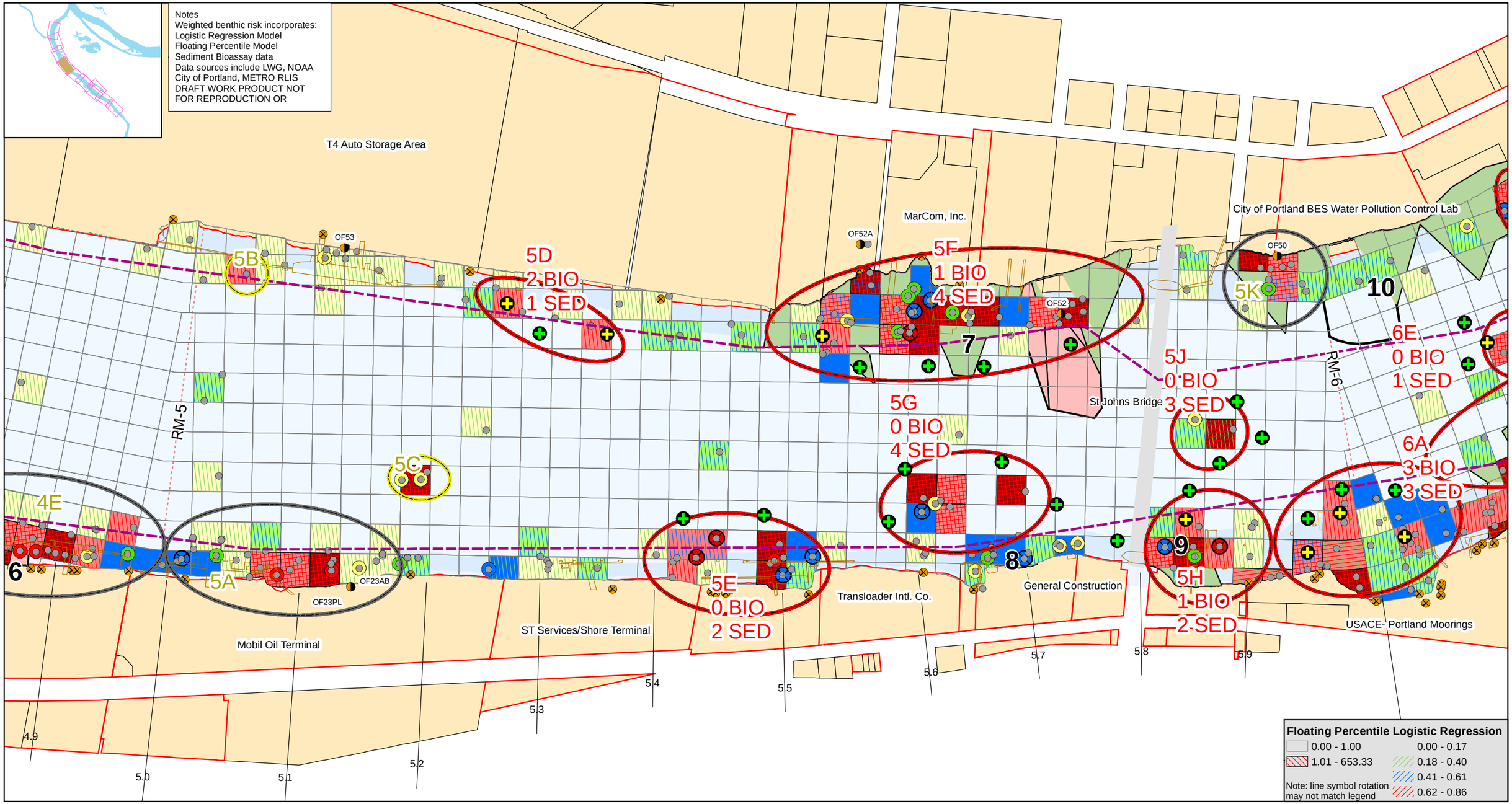
Outfalls

- <all other values>
- City of Portland
- Navigation Channel (NOAA)
- Dock Structures
- Bridges
- CSM Taxlots 20040427

Proposed Rd 3B: River Miles 4-5 Bioassay & Surface Sediment Sampling

See NOAA tech memo for benthic risk scaling methodology

NOAA ARD 06/07/2007



Sediment Bioassay

ALL_TOX

- > 90%
- 80-90%
- 70 - 80%
- < 70%

Hyalella 28 day Growth Only

- 70 - 80%
- < 70%

Proposed 06/01/2007

Sample Type

- Bioassay and Surface Sediment
- Surface Sediment Only
- LWG_FSP_Round3B_Proposed

Potential Risk Areas

Course of Action

- POTENTIAL DATA GAP (RD 3B)
- AREA OF INTEREST
- NO ACTION

Weighted Benthic Risk

- *No surface sediment/toxicity data*
- Not Likely
- Low
- Medium
- High
- Very High

- All benthic risk stations
- Initial Areas of Potential Concern (LWG)

LWG Benthic iAOPC

BNTH_RECPT

- 0 (Other Lines)
- 1 (Benthic Line)
- AOPC_v3_draft

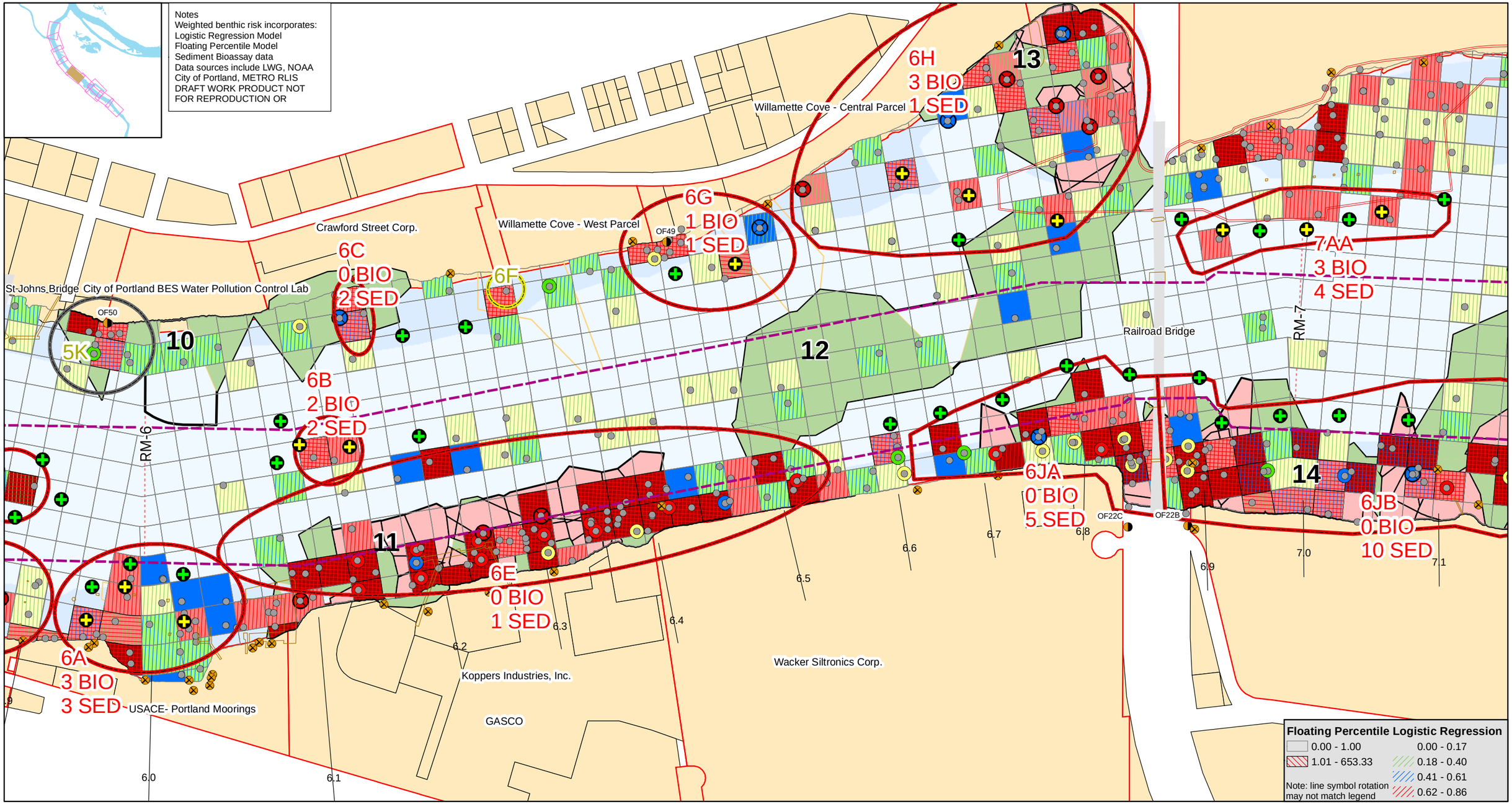
Outfalls

- <all other values>
- City of Portland
- Navigation Channel (NOAA)
- Dock Structures
- Bridges
- CSM Taxlots 20040427

Proposed Rd 3B: River Miles 5-6 Bioassay & Surface Sediment Sampling

See NOAA tech memo for benthic risk scaling methodology

NOAA ARD 06/07/2007



Sediment Bioassay

ALL_TOX

- > 90%
- 80-90%
- 70 - 80%
- < 70%

Hyalella 28 day Growth Only

- 70 - 80%
- < 70%

Proposed 06/01/2007

Sample Type

- Bioassay and Surface Sediment
- Surface Sediment Only
- LWG_FSP_Round3B_Proposed

Potential Risk Areas

Course of Action

- POTENTIAL DATA GAP (RD 3B)
- AREA OF INTEREST
- NO ACTION

Weighted Benthic Risk

- *No surface sediment/toxicity data*
- Not Likely
- Low
- Medium
- High
- Very High

- All benthic risk stations
- Initial Areas of Potential Concern (LWG)

LWG Benthic iAOPC

BNTH_RECPT

- 0 (Other Lines)
- 1 (Benthic Line)
- AOPC_v3_draft

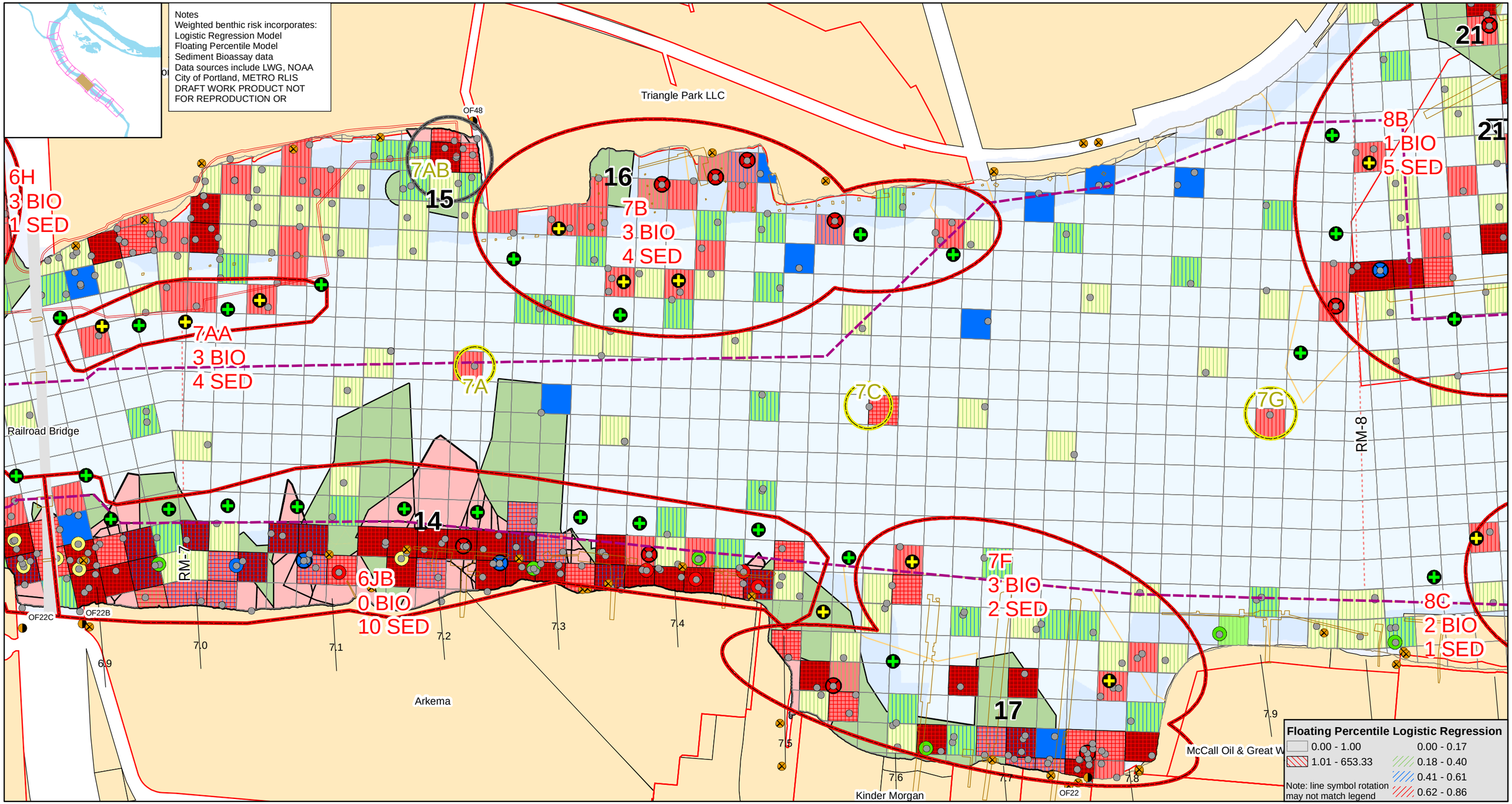
Outfalls

- <all other values>
- City of Portland
- Navigation Channel (NOAA)
- Dock Structures
- Bridges
- CSM Taxlots 20040427

Proposed Rd 3B: River Miles 6-7
Bioassay & Surface Sediment Sampling

See NOAA tech memo for benthic risk scaling methodology

NOAA ARD 06/07/2007



Sediment Bioassay

ALL_TOX

- > 90%
- 80-90%
- 70 - 80%
- < 70%

Hyalella 28 day Growth Only

- 70 - 80%
- < 70%

Proposed 06/01/2007

Sample Type

- Bioassay and Surface Sediment
- Surface Sediment Only
- LWG_FSP_Round3B_Proposed

Potential Risk Areas

Course of Action

- POTENTIAL DATA GAP (RD 3B)
- AREA OF INTEREST
- NO ACTION

Weighted Benthic Risk

- *No surface sediment/toxicity data*
- Not Likely
- Low
- Medium
- High
- Very High

- All benthic risk stations
- Initial Areas of Potential Concern (LWG)

LWG Benthic iAOPC

BNTH_RECPT

- 0 (Other Lines)
- 1 (Benthic Line)
- AOPC_v3_draft

Outfalls

- <all other values>
- City of Portland
- Navigation Channel (NOAA)
- Dock Structures
- Bridges
- CSM Taxlots 20040427

Proposed Rd 3B: River Miles 7-8 Bioassay & Surface Sediment Sampling

See NOAA tech memo for benthic risk scaling methodology

NOAA ARD 06/07/2007

Notes
Weighted benthic risk incorporates:
Logistic Regression Model
Floating Percentile Model
Sediment Bioassay data
Data sources include LWG, NOAA
City of Portland, METRO RLIS
DRAFT WORK PRODUCT NOT
FOR REPRODUCTION OR

Fred Divine Diving & Salvage Co.
OFM-1
OFM-2
OFM-3
OFS-1
OFS-2
OFS-6
8A
22
23
21
Cascade General
8B
1 BIO
5 SED
Cascade General Ship Repair Yard
RM-9
RM-8
8H
8L
20
7G
8E

Floating Percentile Logistic Regression
0.00 - 1.00
1.01 - 653.33
0.00 - 0.17
0.18 - 0.40
0.41 - 0.61
0.62 - 0.86
Note: line symbol rotation may not match legend

Sediment Bioassay
ALL_TOX
> 90%
80-90%
70 - 80%
< 70%
Hyalella 28 day Growth Only
70 - 80%
< 70%

Proposed 06/01/2007
Sample Type
Bioassay and Surface Sediment
Surface Sediment Only
LWG_FSP_Round3B_Proposed

Potential Risk Areas
Course of Action
POTENTIAL DATA GAP (RD 3B)
AREA OF INTEREST
NO ACTION

Weighted Benthic Risk
No surface sediment/toxicity data
Not Likely
Low
Medium
High
Very High

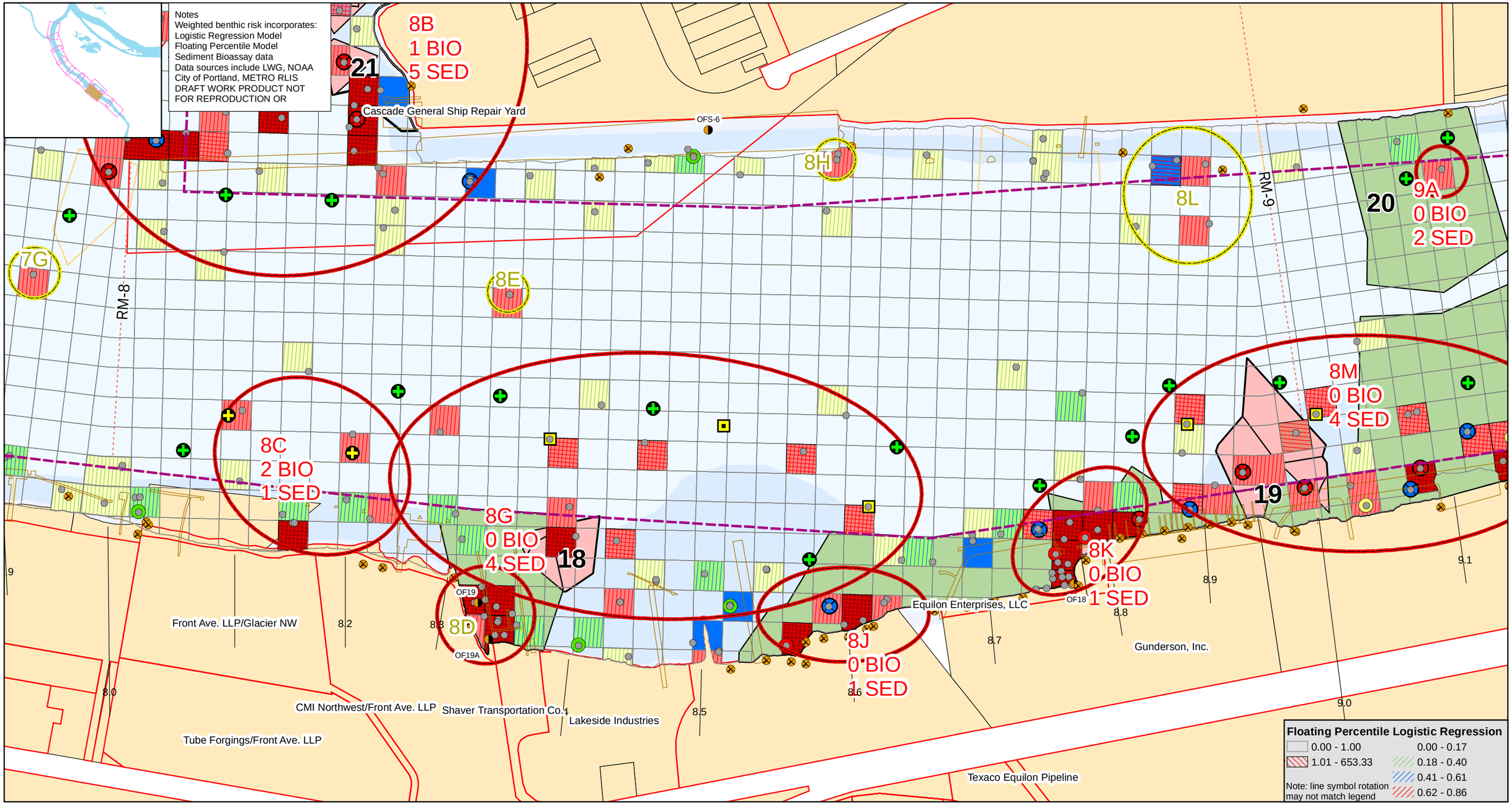
All benthic risk stations
Initial Areas of Potential Concern (LWG)
LWG Benthic iAOPC
BNTH_RECPT
0 (Other Lines)
1 (Benthic Line)
AOPC_v3_draft

Outfalls
<all other values>
City of Portland
Navigation Channel (NOAA)
Dock Structures
Bridges
CSM Taxlots 20040427

Proposed Rd 3B: River Miles 8-9a Bioassay & Surface Sediment Sampling

See NOAA tech memo for benthic risk scaling methodology

NOAA ARD 06/07/2007



Sediment Bioassay

ALL_TOX

- > 90%
- 80-90%
- 70 - 80%
- < 70%

Hyalella 28 day Growth Only

- 70 - 80%
- < 70%

Proposed 06/01/2007

Sample Type

- Bioassay and Surface Sediment
- Surface Sediment Only
- LWG_FSP_Round3B_Proposed

Potential Risk Areas

Course of Action

- POTENTIAL DATA GAP (RD 3B)
- AREA OF INTEREST
- NO ACTION

Weighted Benthic Risk

- *No surface sediment/toxicity data*
- Not Likely
- Low
- Medium
- High
- Very High

- All benthic risk stations
- Initial Areas of Potential Concern (LWG)

LWG Benthic iAOPC

BNTH_RECPT

- 0 (Other Lines)
- 1 (Benthic Line)
- AOPC_v3_draft

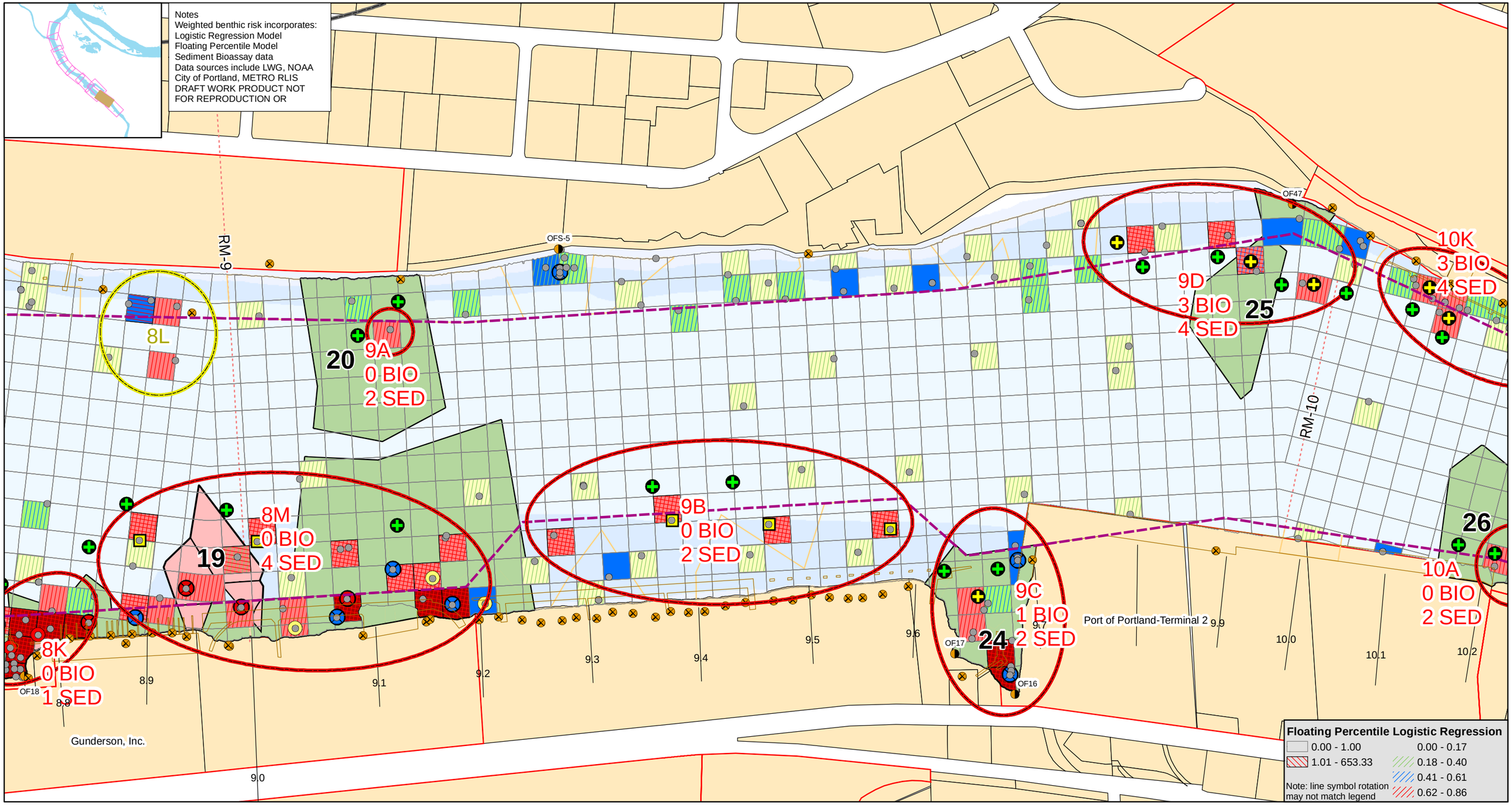
Outfalls

- <all other values>
- City of Portland
- Navigation Channel (NOAA)
- Dock Structures
- Bridges
- CSM Taxlots 20040427

Proposed Rd 3B: River Miles 8-9b Bioassay & Surface Sediment Sampling

See NOAA tech memo for benthic risk scaling methodology

NOAA ARD 06/07/2007



Sediment Bioassay

ALL_TOX

- > 90%
- 80-90%
- 70 - 80%
- < 70%

Hyalella 28 day Growth Only

- 70 - 80%
- < 70%

Proposed 06/01/2007

Sample Type

- Bioassay and Surface Sediment
- Surface Sediment Only
- LWG_FSP_Round3B_Proposed

Potential Risk Areas

Course of Action

- POTENTIAL DATA GAP (RD 3B)
- AREA OF INTEREST
- NO ACTION

Weighted Benthic Risk

- *No surface sediment/toxicity data*
- Not Likely
- Low
- Medium
- High
- Very High

- All benthic risk stations
- Initial Areas of Potential Concern (LWG)

LWG Benthic iAOPC

BNTH_RECPT

- 0 (Other Lines)
- 1 (Benthic Line)
- AOPC_v3_draft

Outfalls

- <all other values>
- City of Portland
- Navigation Channel (NOAA)
- Dock Structures
- Bridges
- CSM Taxlots 20040427

Proposed Rd 3B: River Miles 9-10 Bioassay & Surface Sediment Sampling

See NOAA tech memo for benthic risk scaling methodology

NOAA ARD 06/07/2007

Notes
Weighted benthic risk incorporates:
Logistic Regression Model
Floating Percentile Model
Sediment Bioassay data
Data sources include LWG, NOAA
City of Portland, METRO RLIS
DRAFT WORK PRODUCT NOT
FOR REPRODUCTION OR

Union Pacific Railroad-Albina Yard

hot spot sampling design

9D
3 BIO
4 SED

10K
3 BIO
4 SED

10C
0 BIO
3 SED

10A
0 BIO
2 SED

10E
0 BIO
7 SED

10H

10B
2 BIO
3 SED

10D
0 BIO
5 SED

10F
0 BIO
4 SED

10G

10J

11A
3 BIO
3 SED

25

26

27

RM-10

RM-11

OF46

OF45

OF15

OF14

OF13

Fremont Bridge

Riverscape/Former 1 South

9.9

10.0

10.1

10.2

10.3

10.4

10.5

10.6

10.7

10.9

Floating Percentile Logistic Regression

0.00 - 1.00	0.00 - 0.17
1.01 - 653.33	0.18 - 0.40
	0.41 - 0.61
	0.62 - 0.86

Note: line symbol rotation may not match legend

Sediment Bioassay

ALL_TOX

- > 90%
- 80-90%
- 70 - 80%
- < 70%

Hyalella 28 day Growth Only

- 70 - 80%
- < 70%

Proposed 06/01/2007

Sample Type

- Bioassay and Surface Sediment
- Surface Sediment Only
- LWG_FSP_Round3B_Proposed

Potential Risk Areas

Course of Action

- POTENTIAL DATA GAP (RD 3B)
- AREA OF INTEREST
- NO ACTION

Weighted Benthic Risk

- *No surface sediment/toxicity data*
- Not Likely
- Low
- Medium
- High
- Very High

- All benthic risk stations
- Initial Areas of Potential Concern (LWG)

LWG Benthic iAOPC

BNTH_RECPT

- 0 (Other Lines)
- 1 (Benthic Line)
- AOPC_v3_draft

Outfalls

- <all other values>
- City of Portland
- Navigation Channel (NOAA)
- Dock Structures
- Bridges
- CSM Taxlots 20040427

Proposed Rd 3B: River Miles 10-11 Bioassay & Surface Sediment Sampling

See NOAA tech memo for benthic risk scaling methodology

NOAA ARD 06/07/2007