

St. Johns River Water Management District UMAM Calibration Exercises

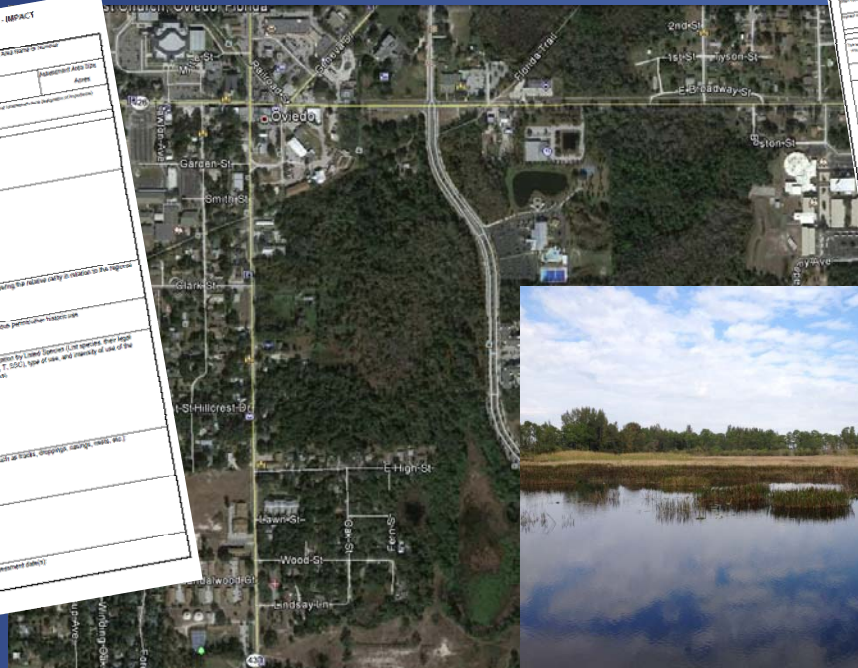
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St. Johns River Water Management District**

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART 1: IMPACT
Form 62-346.00(02), F.A.C. (See Section 62-346.400 F.A.C.)

Project Name	Proposed Action	Project Type	Assessment Area Size
Project Date	Project Location (Address)	Project Location (City)	Project Location (County)
Description of Project (Include all wetland areas affected, other surface water, etc.)			
Assessment and Reporting			
Significant Wetland Features	Wetland Classification (Use the list of wetland types in the Appendix)	Wetland Use (Consider the wetland's use in the Appendix)	Wetland Value (Consider the wetland's value in the Appendix)
Functions	Wetland Mitigation by Landowner (Use the list of mitigation types in the Appendix)	Wetland Mitigation by Landowner (Use the list of mitigation types in the Appendix)	Wetland Mitigation by Landowner (Use the list of mitigation types in the Appendix)
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Form 62-346.00(02), F.A.C. (Phone: 352-394-3344)



UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART 2: WETLAND RESTORATION
Form 62-346.00(02), F.A.C. (See Section 62-346.400 F.A.C.)

Project Name	Proposed Action	Project Type	Assessment Area Size
Project Date	Project Location (Address)	Project Location (City)	Project Location (County)
Description of Project (Include all wetland areas affected, other surface water, etc.)			
Assessment and Reporting			
Significant Wetland Features	Wetland Classification (Use the list of wetland types in the Appendix)	Wetland Use (Consider the wetland's use in the Appendix)	Wetland Value (Consider the wetland's value in the Appendix)
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UMAM – The Basics & Beyond
Environmental Permitting
Summer School
July 24, 2014



St. Johns River
Water Management District

Summary

- Three calibration exercises conducted in 2012-2013
- Assessments conducted by:
 - FDEP, SJRWMD, SFWMD, SWFWMD
 - USACE
 - Orange County
 - Consultants
- Appx 60 participants for each exercise



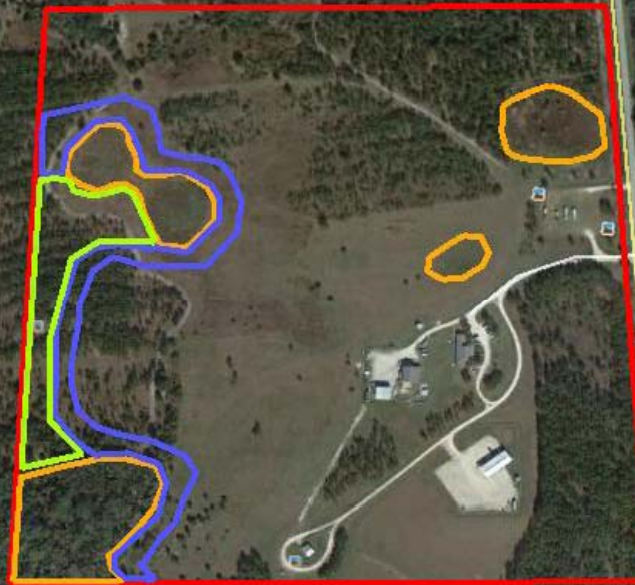
Summary

- Each exercise included impact and onsite mitigation assessment areas
- Exercise locations:
 - #1 Central Florida
 - #2 North Florida
 - #3 East Central Florida – (coastal)



Calibration Exercise #1

- Proposed ±77 acre Residential Development
- Wetland Impacts - 2.8 acres
- Onsite Mitigation
 - Preserve 2.5 acre wetland
 - Enhance 2.5 acre wetland
 - Create 3 acre wetland
 - Enhance 5 acre upland



Calibration Exercise #1

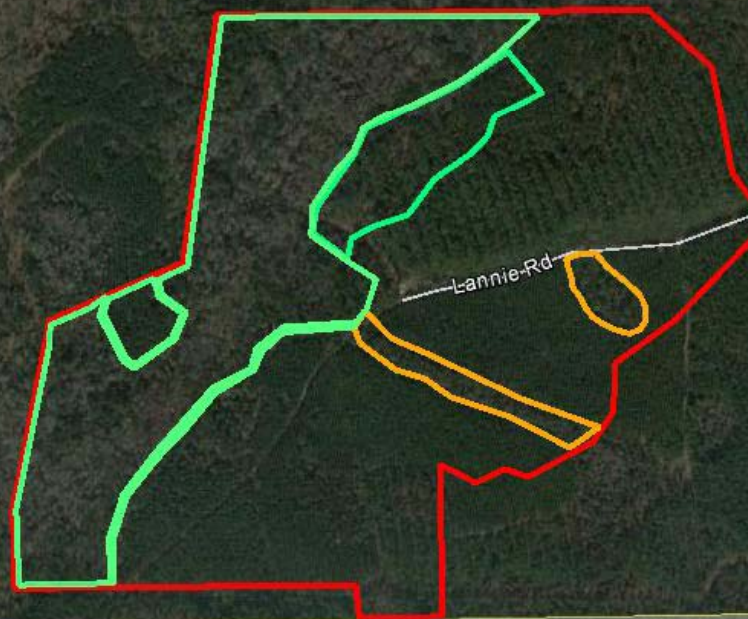
	Impact A (FW Herbaceous)	Impact B (FW Herbaceous)	Mitigation C (FW Wetland Enhancement)
L&L current score range	4 - 8 (7)	2 - 8 (7)	3 - 9 (7)
L&L w/mitigation score range	0	0	3 - 9 (7)
WE current score range	5 - 9 (7)	1 - 7 (6)	1 - 8 (6)
WE w/mitigation score range	0	0	4 - 9 (7)
CS current score range	4 - 9 (7)	2 - 8 (6)	2 - 7 (5)
CS w/mitigation score range	0	0	5 - 9 (8)
Time Lag range			1.00 - 1.45 (1.14)
Risk range			1.00 - 3.00 (1.50)
PAF			n/a

	Mitigation D (FW Forested Preservation)	Mitigation E (FW Herbaceous Creation)	Mitigation F (Upland Restoration)
L&L current score range	4 - 9 (8)	0	2 - 8 (7)
L&L w/mitigation score range	4 - 10 (8)	5 - 9 (7)	4 - 8 (7)
WE current score range	4 - 10 (8)	0	-
WE w/mitigation score range	4 - 10 (8)	4 - 9 (7)	-
CS current score range	3 - 9 (8)	0	3 - 9 (4)
CS w/mitigation score range	7 - 10 (9)	5 - 9 (8)	4 - 9 (8)
Time Lag range	1.00	1.03 - 2.45 (1.25)	1 - 2.45 (1.25)
Risk range	1.00 - 2.00 (1.00)	1.25 - 3.00 (2.00)	1.00 - 2.75 (1.50)
PAF	0.3 - 1.0 (0.8)	n/a	n/a



Calibration Exercise #2

- Proposed ±100 acre Residential Development
- Wetland Impacts – 3.6 acres
- Secondary Impacts – 0.8 acre
- Onsite Mitigation
 - Preserve 37.6 acre wetland
 - Enhance 1.4 acre wetland
 - Create 3 acre wetland
 - Enhance 7.3 acre upland



Calibration Exercise #2

	Impact A (FW Forested)	Impact B (FW Forested)	Secondary Impact (FW Forested)
L&L current score range	4 - 8 (7)	5 - 8 (7)	5 - 8 (7)
L&L w/mitigation score range	0	0	4 - 7 (5)
WE current score range	3 - 8 (6)	3 - 8 (7)	4 - 8 (7)
WE w/mitigation score range	0	0	3 - 7 (6)
CS current score range	3 - 8 (6)	4 - 8 (6)	4 - 8 (7)
CS w/mitigation score range	0	0	3 - 8 (6)
Time Lag range			
Risk range			
PAF			

	Mitigation C (Upland Enhancement)	Mitigation E (FW Forested Restoration)	Mitigation F (FW Forested Preservation)
L&L current score range	5 - 8 (7)	6 - 8 (7)	5 - 9 (8)
L&L w/mitigation score range	6 - 8 (7)	6 - 9 (7)	5 - 9 (8)
WE current score range	n/a	0 - 8 (6)	6 - 9 (8)
WE w/mitigation score range	n/a	0 - 9 (7)	6 - 9 (8)
CS current score range	3 - 8 (6)	3 - 8 (6)	4 - 9 (8)
CS w/mitigation score range	6 - 9 (8)	4 - 9 (8)	7 - 9 (9)
Time Lag range	1 - 1.68 (1.14)	1.14 - 1.92 (1.14)	1 - 1.46 (1.00)
Risk range	1 - 2 (1.25)	1 - 3 (1.25)	1 - 2 (1.00)
PAF	n/a	n/a	0.1 - 0.9 (0.7)



Calibration Exercise #3

A. Max Brewer Memorial Pkwy

- Proposed ±3.5 acre Satellite Relay Station
- Wetland Impacts
 - 2 acres saltmarsh
 - 0.7 acre mangrove
 - 0.1 acre seagrass
- Onsite Mitigation
 - Restore 4.6 acres saltmarsh
 - Restore 2 acres mangrove
 - Purchase mitigation bank credits for seagrass impacts



Calibration Exercise #3

	Impact A (Saltmarsh)	Impact B (Mangrove)	Impact C (Seagrass)
L&L current score range	7 - 10 (9)	6 - 9 (8)	7 - 10 (9)
L&L w/mitigation score range	0	0	0 - 10 (8)
WE current score range	5 - 10 (9)	4 - 9 (8)	5 - 10 (9)
WE w/mitigation score range	0	0	0 - 9 (9)
CS current score range	6 - 10 (9)	4 - 10 (8)	4 - 10 (9)
CS w/mitigation score range	0	0	0 - 9 (6)
Time Lag range			
Risk range			

	Mitigation D (Saltmarsh)	Mitigation E (Mangrove)
L&L current score range	0 - 9 (8)	4 - 9 (9)
L&L w/mitigation score range	7 - 9 (8)	6 - 9 (8)
WE current score range	0 - 9 (5)	0 - 9 (5)
WE w/mitigation score range	4 - 9 (8)	4 - 9 (8)
CS current score range	0 - 9 (3)	0 - 9 (3)
CS w/mitigation score range	6 - 10 (8)	6 - 10 (8)
Time Lag range	1 - 1.92 (1.25)	1.03 - 2.45 (1.25)
Risk range	1 - 2.5 (1.25)	1 - 2.5 (1.25)



Virtual Exercise

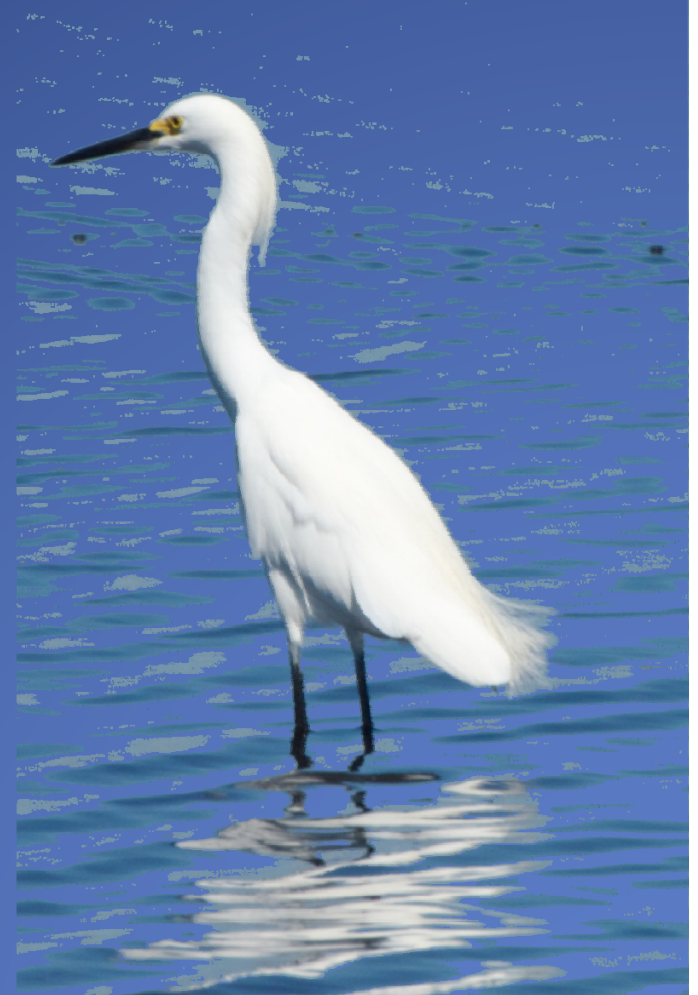
- Virtual Assessment conducted for Exercise #3
 - 56 field assessors
 - 5 virtual assessors

		Location and Landscape Support		Water Environment		Community Structure		Delta	Acres	Functional Loss
		Current	w/Impact	Current	w/Impact	Current	w/Impact			
Impact A	Field	8	0	8	0	9	0	0.84	2.00	1.671
	Virtual	8	0	7	0	7	0	0.76	2.00	1.512
Impact B	Field	8	0	7	0	8	0	0.77	0.70	0.541
	Virtual	7	0	6	0	6	0	0.64	0.70	0.448
Impact C	Field	9	7	9	7	8	5	0.21	0.10	0.021
	Virtual	7	4	7	3	6	3	0.36	0.10	0.036

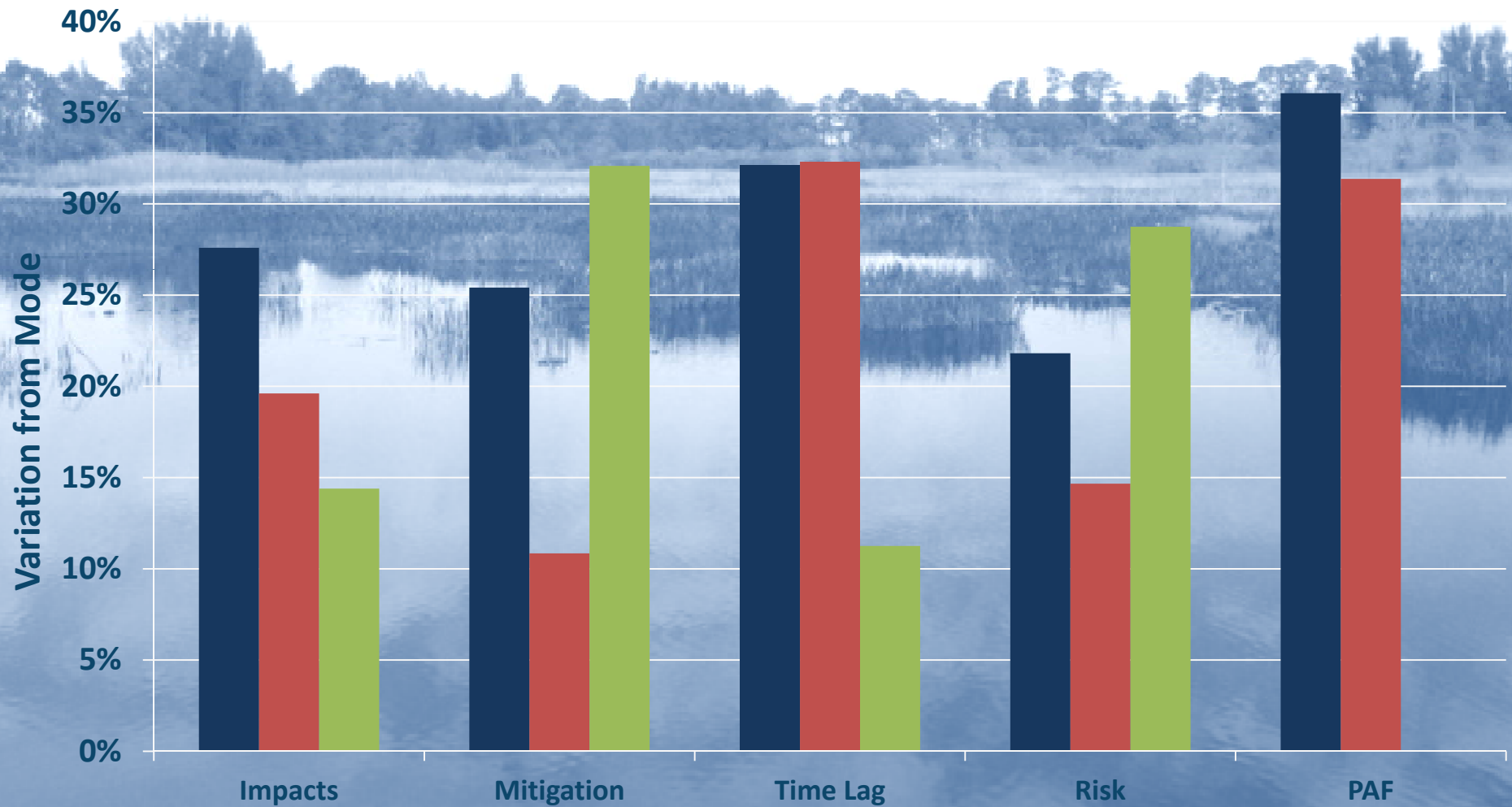
		Location and Landscape Support		Water Environment		Community Structure		Delta	Time Lag	Risk	PAF	RFG	Acres	Functional Gain
		Current	w/Mitigation	Current	w/Mitigation	Current	w/Mitigation							
Mitigation D	Field	8	8	6	8	4	8	0.25	1.17	1.45	n/a	0.153	4.60	0.705
	Virtual	7	8	4	7	1	8	0.37	1.13	1.85	n/a	0.187	4.60	0.858
Mitigation E	Field	8	8	6	8	4	8	0.22	1.33	1.57	n/a	0.107	2.00	0.213
	Virtual	7	7	4	7	1	8	0.32	1.40	2.05	n/a	0.12	2.00	0.239

Results

- Range of scoring still highly variable – highlights subjectivity of method but...
- Calibration exercises appeared to work
 - Reduction in number of errors
 - Exercise #1 – 27 errors
 - Exercise #2 – 6 errors
 - Exercise #3 – 3 errors
 - Reduction in variation among assessors



Results



Results

- Factors associated with improvements between Calibration Exercise 1 and 2:
 - Allowed discussion among staff
 - Part I form filled out for the assessors (reference and target communities identified)
 - More clarification provided – RAIs – no assumptions
 - Post-assessment analysis with all participants
- While agreement is often reached on factors important to scores, the value assigned to that factor can be different



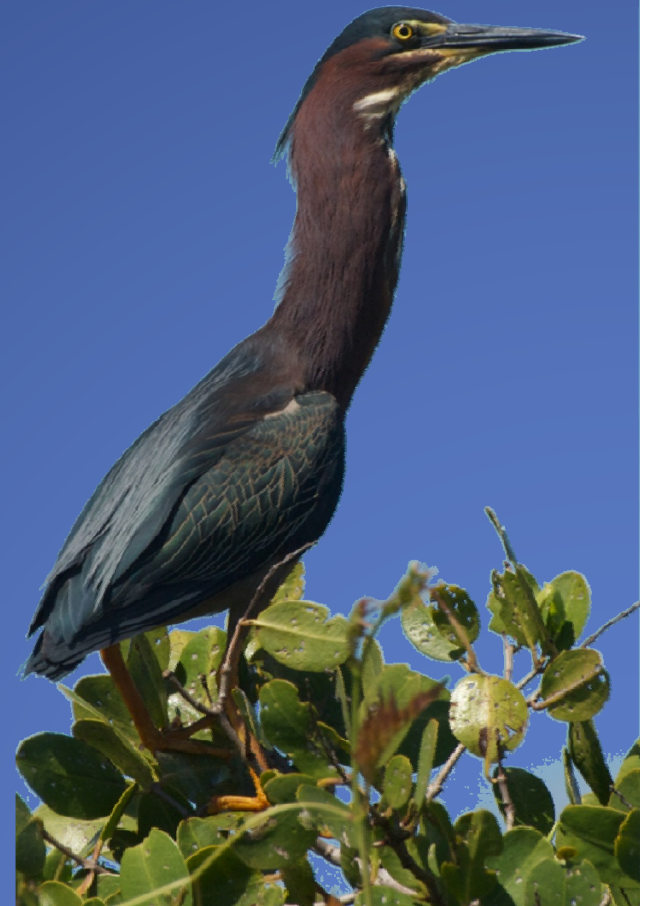
Results

- Factors associated with extreme variation in Calibration Exercise 3:
 - Lack of experience in coastal environment
 - Mitigation plan – difficult to see past existing condition



Lessons Learned

- Training exercises work!
- Don't make up conditions that aren't actually present
- Do not allow assumptions – have assessors ask questions
- Allow interaction as would normally occur – talking to co-workers, supervisors, etc.
- Choose realistic sites



Questions?

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