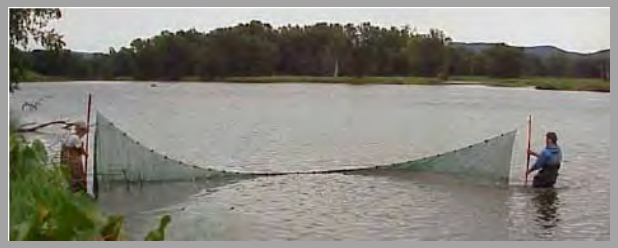
HREP PERFORMANCE MONITORING ST PAUL DISTRICT

HREP Meeting
David Potter
29 September 2016



Upper Mississippi River Restoration
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OUTLINE

- PERs completed & planned
- MVP's Process (Ideal vs Reality)
- MVP's Potential Solutions

PERs COMPLETED

- Rice Lake (MN River) - 2012
- Peterson Lake (Pool 4) – 2011
- Indian Slough (Pool 4) - 2011
- Island42 (Pool 5) – 1995
- Finger Lakes (Pool 5)* - 2015
- Small Scale Drawdown (Pools 5, 9) - 2004
- Lake Onalaska (Pool 7) - 2004
- East Channel (Pool 8) – 2011
- Pool 8 Phase I (Pool 8) – 2004
- Blackhawk Park (Pool 9) - 2004
- Pool 9 Islands (Pool 9) - 2013
- Cold Springs (Pool 9) – 2004
- Bussey Lake (Pool 10) - 2004
- Guttenberg Ponds (Pool 11) – 2011

UPCOMING PERs

- Peterson Lake (Pool 4)
- Island 42 (addendum) (Pool 5)
- Ambrough Slough (Pool 10)
- Polander (Pool 5A)
- Trempealeau NWR (Pool 6)
- Pool 8 Phase II (Pool 8)

Harpers Slough HREP

OUR PROCESS

- Analysis of existing data
- Comparison of data to objectives identified in Feasibility Reports
- Complete a report every 5 years following the proposed monitoring.
- Follow the 2012 template (McCain).
- Poll the sponsors
- Lessons learned applied to future projects.

REALITY

- Reports taking a long time to complete; 5-year cycle delayed.
- Lots of HREPs in MVP (27).
- PERs based on single projects; synergistic effects not considered.
- Limited data, non-rigorous sampling designs, weakened conclusions.
- Limited “active” adaptive management; lessons learned applied to future projects (“passive” adaptive management).

REALITY (cont'd)

- Low priority; assigned to those not intimately familiar with HREP.
- Lack a good system for storing, organizing & obtaining the data.
- Objectives not always SMART (specific, measureable, attainable, risk-informed, time bound).
- Intensive monitoring = less on-the-ground rehabilitation.

WEAK CONCLUSIONS

*It is **unclear** whether the increase in submersed aquatic vegetation in Peterson Lake can be attributed to the HREP project or if they are a response to larger, system-wide processes.* 2011 PER

*This also **suggests** that fish populations within habitat projects **may** fluctuate similarly to populations within the general surrounding habitat.* WIDNR 2015

EXAMPLES OF "DENSE" OBJECTIVES

Protect and/or enhance existing mussel habitat in the Ambrough Slough/Gremore Lake complex as opportunities present themselves.

POTENTIAL SOLUTION

- Translate the objective into SMART objective (renamed as "Success Criteria" in the PER.
- Vetted through the project sponsors via draft PER.

A MORE PRACTICAL APPROACH?

SECTION 2039 OF WRDA 2007

- A plan for monitoring success of ecosystem restoration:
  - Description
  - Success criteria
  - Estimated cost & duration
  - 10 years or less post-construction cost-shared.
  - Adaptive Management
- District Engineer, in consultation with sponsors, documents ecological success.
- Division Commander determines if ecological success is achieved.

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MODA (ORACLE DIGITAL ASSETS)
MERMaid (FORMERLY ERMAM)

Mitigation and **E**cosystem **R**estoration **M**onitoring aid

MODA (ORACLE DIGITAL ASSETS)
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« Return to Project Search

EMP-MVP Harpers Slough, IA

Overview | Objectives | Schedule | Documents | MAP-IT

Modify Objective Information

1. Protect wetland areas from river currents and wind and wave action providing hydrodynamic conditions for maintenance and establishment/expansion of diverse, native emergent aquatic plant beds (View/Hide Success Criteria & Tasks) Modify Success Criteria Information

Success Criteria

1.1 Within 5 years post-construction, 170+ acres of the study area is classified as stable emergent vegetation.

Tasks (Add Task)		Phase	Protocol	Responsible	Comment	Est-Cost	Act-Cost	
1.1.1	Created high-resolution land cover/use data sets and associated ArcGIS maps. Modify Task Information	Pre-Construction	LTRM	UMESC/Robinson	1975 LULC, 1989 LULC, 2000 LULC, 2010 LULC shapefiles	0	0	View Task Schedule
		Construction				0	0	
		Post-Construction	LTRM	UMESC	2020 LULC	0	0	View Task Schedule
1.1.2	LULC Analysis for the project. Modify Task Information	Pre-Construction	LTRM	Corps/Ingvalson	Harpers Attachment D Enclosure 1 Cover Types 9-06-13	0	0	View Task Schedule
		Construction				0	0	
		Post-Construction		Corps		0	0	View Task Schedule

1.2 Within 5 years post-construction, the species composition and biomass of emergent vegetation treated sites is not significantly different to known quality sites.

Tasks (Add Task)		Phase	Protocol	Responsible	Comment	Est-Cost	Act-Cost	
1.2.1	EMERVEG species composition assessment Modify Task Information	Pre-Construction				0	0	
		Construction				0	0	
		Post-Construction	HREP Design handbook; USFWS-IWMM; or Vacek et al 2011.)	Corps		0	0	View Task Schedule

MODA (ORACLE DIGITAL ASSETS)
MERMaid (FORMERLY ERMAM)

MVP Oracle Digital Assets (MODA

Home | Project Data Portal | MV

» Ecosystem Restoration and Mitig

EMP-MVP Harpers Slough, IA

Overview | Objectives | Schedu

Year	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Task No
2010				view	12.3.1
2013		view			9.1.1
2014			view		4.1.1
2014				view	12.3.1
2014	view	view			6.1.1
2015	Y	Y			6.1.1
2015				Y	12.3.1
2016	Y	Y			6.1.1
2016	Y	Y			6.1.1
2016					12.3.1

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MERMaid

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EMP-MVP Harpers Slough, IA							
Year	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Task No	Task	Responsible POC
2020	Y	Y			6.1.1	An inventory of bald eagle nest locations in the study area will be conducted.	
Pool 8 Islands, Phase II Habitat Rehabilitation and Enhancement Project							
Year	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Task No	Task	Responsible POC
2020	Y	Y	Y	Y	1.1.1	Periodic (bi-weekly or monthly) DO surveys during fall and winter months throughout the target subareas.	WIDNR, USACE
2020	Y	Y	Y	Y	1.3.1	Periodic (bi-weekly or monthly) temperature assessments during fall and winter months throughout the target subareas.	WIDNR, USACE
2020	Y	Y	Y	Y	1.2.1	Periodic (bi-weekly or monthly) velocity assessments during fall and winter months throughout the target subareas.	WIDNR, USACE
SA Marsh Lake Feasibility, MN							
Year	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Task No	Task	Responsible POC
2020	Y				2.3.1	Each year, data will be compiled from operations records and gauging stations during the months December – February. This data will be analyzed to determine the percent of time that targeted water levels are achieved.	ACE-MVP

SUMMARY

- Challenges to completing PERs.
- Getting serious about documenting/declaring success at the project, pool, reach scales will require resources.

Polander Lake HREP

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