Initial Deployment of the Tribal Data Management Maturity (DMM) Model

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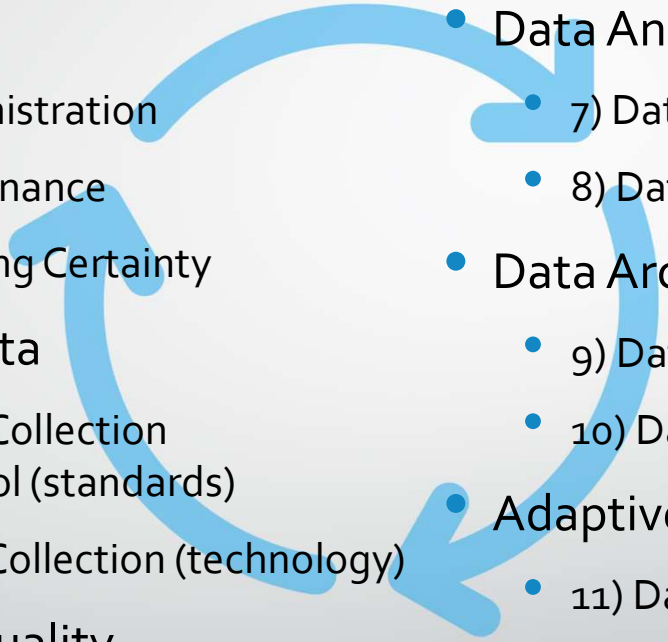
Development of a Tribal Data Management Maturity Model

- Need for Metrics to evaluate efficacy of data management
- CTUIR Data Management Maturity Model
- ITMD Pilot Project – data maturity calculator
- Capability Maturity Model Integration (CMMI) - Data Management Maturity Model
- ITMD Tribal Data Management Maturity Model

Dataset Drivers

- Dataset Planning
  - 1) Dataset Administration
  - 2) Dataset Governance
  - 3) Dataset Funding Certainty
- Collect/Create Data
  - 4) Dataset Data Collection Methods/Protocol (standards)
  - 5) Dataset Data Collection (technology)
- Data Cleansing/Quality
  - 6) Dataset QA/QC Processes
- Data Analysis and Reporting
  - 7) Dataset Reporting/Publishing
  - 8) Dataset Access
- Data Archiving
  - 9) Dataset Metadata
  - 10) Dataset Storage
- Adaptive Management
  - 11) Dataset Life Cycle Management



Data System Drivers

- Data System Planning
  - 1) Data System Data Management Strategy
  - 2) Data System Governance
  - 3) Data System Funding Certainty
- Data Cleansing/Quality
  - 4) Data System QA/QC Processes
- Data Analysis and Reporting
  - 5) Data System Reporting/Publishing
  - 6) Data System Access
- Data Archiving
  - 7) Data System Metadata Management
  - 8) Data System Dataset Storage
- Adaptive Management
  - 9) Data System Life Cycle Management
  - 10) Data System Data Management Maturity Status
  - 11) Data System Coordination

Datasets for Review

- Each tribe and CRITFC identified several datasets to review
- The data sets are generally a priority for the tribes or the region
- The ITMD data stewards have some influence over the data sets
- The data sets provide some indication of the data system in which they are managed
- Chosen data sets should be long-term to support tracking as indicators for improved system maturity

Yakama

(Bill Bosch and Michelle Steg-Geltner)

	Data Set Name	Average Data Set Maturity Score
STAR	Prosser Adult Counting	3.0
STAR	Prosser Adult Sampling	3.0
STAR	Roza Adult Counting	3.0
STAR	Roza Adult Sampling	3.0
	Yakima Basin juvenile PIT operations	4.1
	Prosser Steelhead Kelt (RTR)	4.1
Project level	Levi George spawn time sampling	2.6
Project level	Levi George juvenile sampling	2.6
Project level	Prosser juvenile sampling	2.5
Project level	Yakima Basin release data	1.9
Project level	Yakima Basin redd counts	1.9

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PTAGIS

Yakama

Average data set maturity compared to estimated data system maturity:

	Number of Data Sets	Maturity	Min	Max
Average Data Set Maturity	11	2.9	2.0	3.9
Data Systems:				
QW/STAR		3.6	2.5	4.0
RTR/CRITFC ITMD (kelt)		4.1	3.0	5.0
YN Project Level		2.2	1.5	3.0

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Average Data Set Maturity	11	2.9		2.0	3.9
Data Systems:					
QW/STAR	(4)	3.6	3.0*	2.5	4.0
RTR/CRITFC ITMD (kelt)		4.1		3.0	5.0
YN Project Level	(5)	2.2	2.3*	1.5	3.0

*average of data sets evaluated for those systems

Yakama

Comments:

- Filling gaps is reliant on program-wide cohesiveness in planning, standards and execution
- Large gaps for project level data management (need data stewards)
- Generally, the jump from Level 2 to Level 3 seems to be a much bigger leap than from Level 3 to Level 4.
- Higher-level functions are being implemented at the project scale, but lacking program-wide implementation, it is difficult to graduate to a higher level for system maturity, even if significant incremental progress is being made at the project scale.

Nez Perce

(Clark Watry)

Data Set Name	Average Data Set Maturity Score
SGS Redds	3.3
SGS Carcass	3.3
Juvenile Abundance	3.2
Juvenile Survival	3.2
Summarized Age	3.2

Nez Perce

Average data set maturity compared to estimated data system maturity:

	Number of Data Sets	Maturity	Min	Max
Average Data Set Maturity	5	3.3	2.0	4.0
NPT CDMS & Kus		3.0	2.0	3.5

Nez Perce

Comments:

- Some criteria definitions are not clear, difficult to apply
- Difficult to discern between maturity levels, only slight changes appear to increase ranking
- Difficult to rate a data set due to managing some drivers at the system scale
- May have taken definitions too literally – clean up definitions and intent

Umatilla

(Collette Coiner and Ken Burcham)

Data Set Name	Average Data Set Maturity Score
Adult Weir	3.6
Water Temperature	3.8
Spawning Ground	3.6
Rotary Screw Trap	3.9

Umatilla

Average data set maturity compared to estimated data system maturity:

	Number of Data Sets	Maturity	Min	Max
Average Data Set Maturity	4	3.8	3.0	5.0
CTUIR CDMS		4.3	3.0	5.0

Umatilla

Comments:

- Struggled with some of wording / ranking of criteria
- Became a bit of a blur as to what was what

Warm Springs

(Amy Charette, Joe Lemanski, and Tom Iverson)

Data Set Name	Average Data Set Maturity Score
Fox Creek Vegetation	1.5
Fox Creek Habitat	1.8
Fox Creek Topographic	1.7
Fox Creek PIT Tagging	2.5
Fox Creek Flow	1.9
Fox Creek Temperature	1.8
Middle Fork John Day Habitat	1.8
Middle Fork John Day PIT Tagging	2.5
Upper John Day River data sets	…
Etc… (total of 19 data sets reviewed)	

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Upper John Day River data sets	…
Etc…	

PTAGIS

Warm Springs

	Number of Data Sets	Maturity	Min	Max
Average Data Set Maturity	19	1.9	1.0	2.8
John Day Basin Office		1.4	1.0	2.0

Warm Springs

Comments:

- Staff in transition
- Rankings were converted from prototype maturity calculator, will need updating once data management staff are in place

CRITFC

(Joe Nowinski)

Data Set Name	Average Data Set Maturity Score
Upstream Migration & Timing - Bonneville Adult Returns	2.5
Monitoring Recovery Trends - Grande Ronde Water Temperature	2.3
Kelt Reconditioning - Collections	1.9
Zone 6 Harvest - Monitoring	1.8
Nez Perce Harvest - Monitoring	1.9

CRITFC

(Joe Nowinski)

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4.1 YN

CRITFC

Average data set maturity compared to estimated data system maturity:

	Number of Data Sets	Maturity	Min	Max
Average Data Set Maturity	5	2.1	1.2	3.0
CRITFC CDMS		1.8	1.0	3.0
CRITFC GIS		1.4	1.0	2.0
Kelt/RTR		1.6	1.0	3.0

CRITFC

Comments:

- Identified specific actions that could advance maturity of each of their data sets
- Questioned some overlap of the drivers and suggested ways to combine drivers to reduce overall number

Summary/Observations

- Results varied greatly between tribes/CRITFC
- Different levels of commitment from various partners
- Users need to own this evaluation
- Need further refinement to make more useful
- Each entity will use this slightly differently – that is OK
- The thought of using this model can be overwhelming but the actual application is not that difficult or time consuming
- Need to work on how results will be tracked over time

Next Steps

- Individual tribes' and CRITFC lessons learned
- Continue to fine tune number of drivers and definitions for evaluation criteria (next agenda item)
- Present results in ITMD Annual Report
- Implement DMMM next winter and track changes

Intermission

Initial Deployment of the Tribal Data Management Maturity (DMM) Model

Path to Improvement

Discussion

- Concerns expressed
  - Data sets versus Data Systems (do we need both?)
  - Reduce/refine drivers for clarity and simplicity
  - Make clear difference between levels/rankings
  - Data stewards need to own the model for their tribe
- Process to advance development of model
  - Resume workgroup that developed initial model?
  - Address all drivers or focus on certain types/groups
  - Iterative improvements