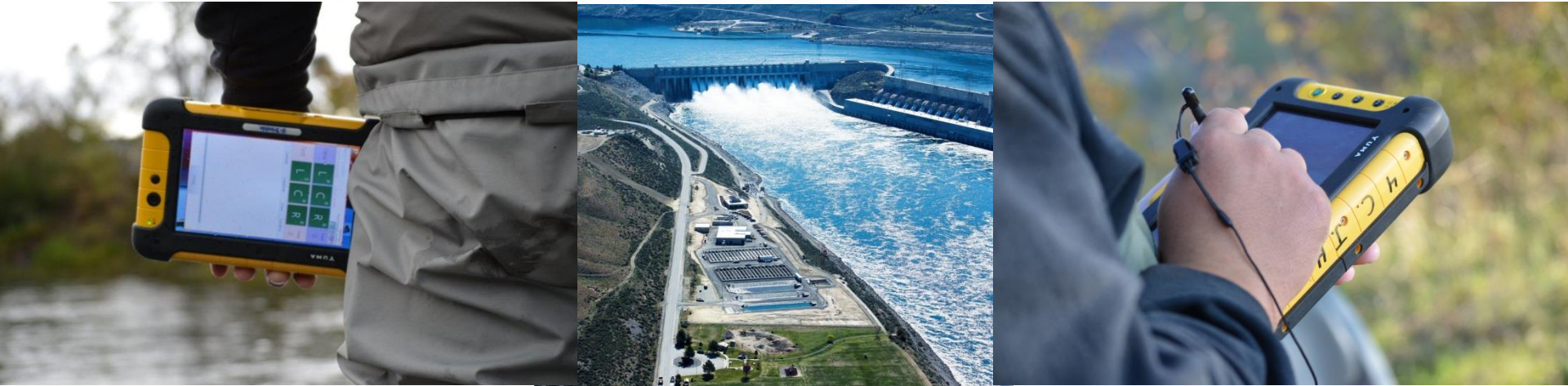


The Chief Joseph Hatchery Master Database Project



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Annual Program Review: March 2014

Presentation Overview



- Need and Value for database
- Regional Data Standards
- Database Systems
- Why Electronic Data Collection?
- Data Life Cycle for the Chief Joseph Hatchery Program (CJHP)
- Unique features of the System
- Examples of the System
- Summary: The CJHP Master Database System
- Supporting CJHP annual decisions
- Conclusions

Need and Value for the Database



- The CJHP has defined objectives, data collections protocols and analytical and reporting processes.
- Rigorous science designs to attain learned knowledge to guide operation of the Hatchery.
- Access data for inclusion in analytical models and decision processes (reporting)
- Integration of 4Hs data is required to determine the effectiveness of the CJHP over time.
- **Data – lots of data!**

Regional Data Standards

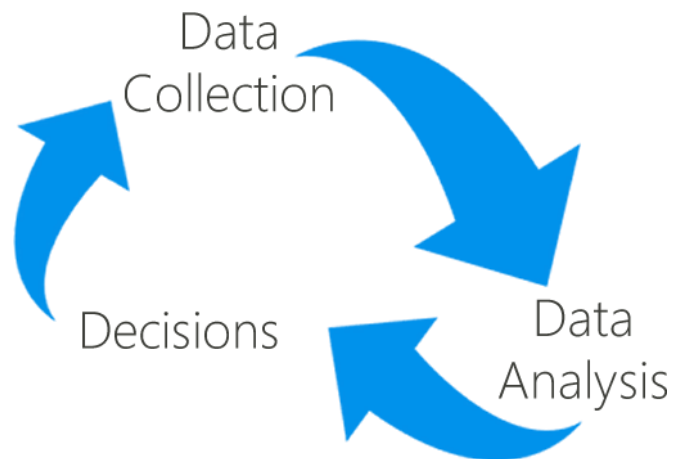


- Coordinated Assessments Project
 - Data Standards and Data Sharing
 - Hatchery Indicators
- MonitoringMethods.org
 - Protocol Sharing
- Regional Standards
 - Ensure same goals
 - 🔄 Full life-cycle of salmon and steelhead

Database Systems



- Data Integrity, Security and Quality
- Designed to answer key questions
- Database systems provide for consistent, secure, well-documented, high quality, data to support analysis and decision making



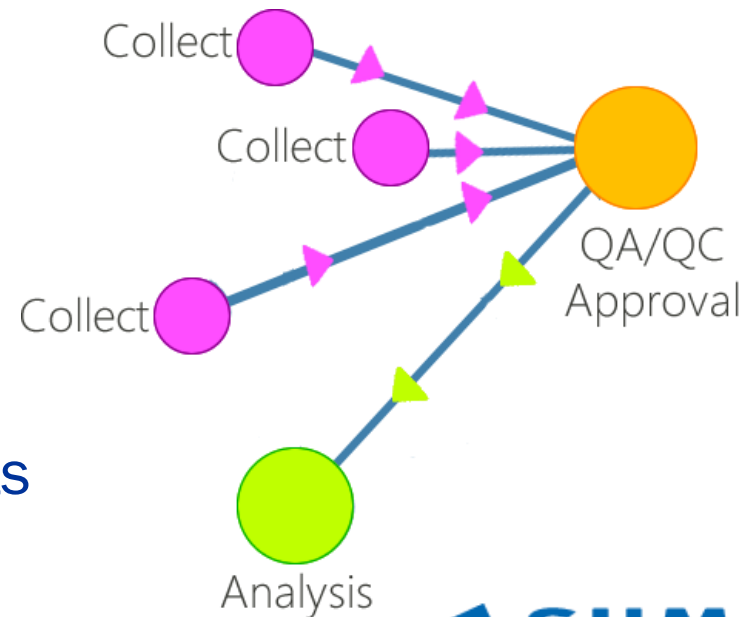
Why Electronic Data Collection?



- Data Integrity
 - Data entry QA/QC in the field
 - 2-tier approval process
 - Immediate data synchronization

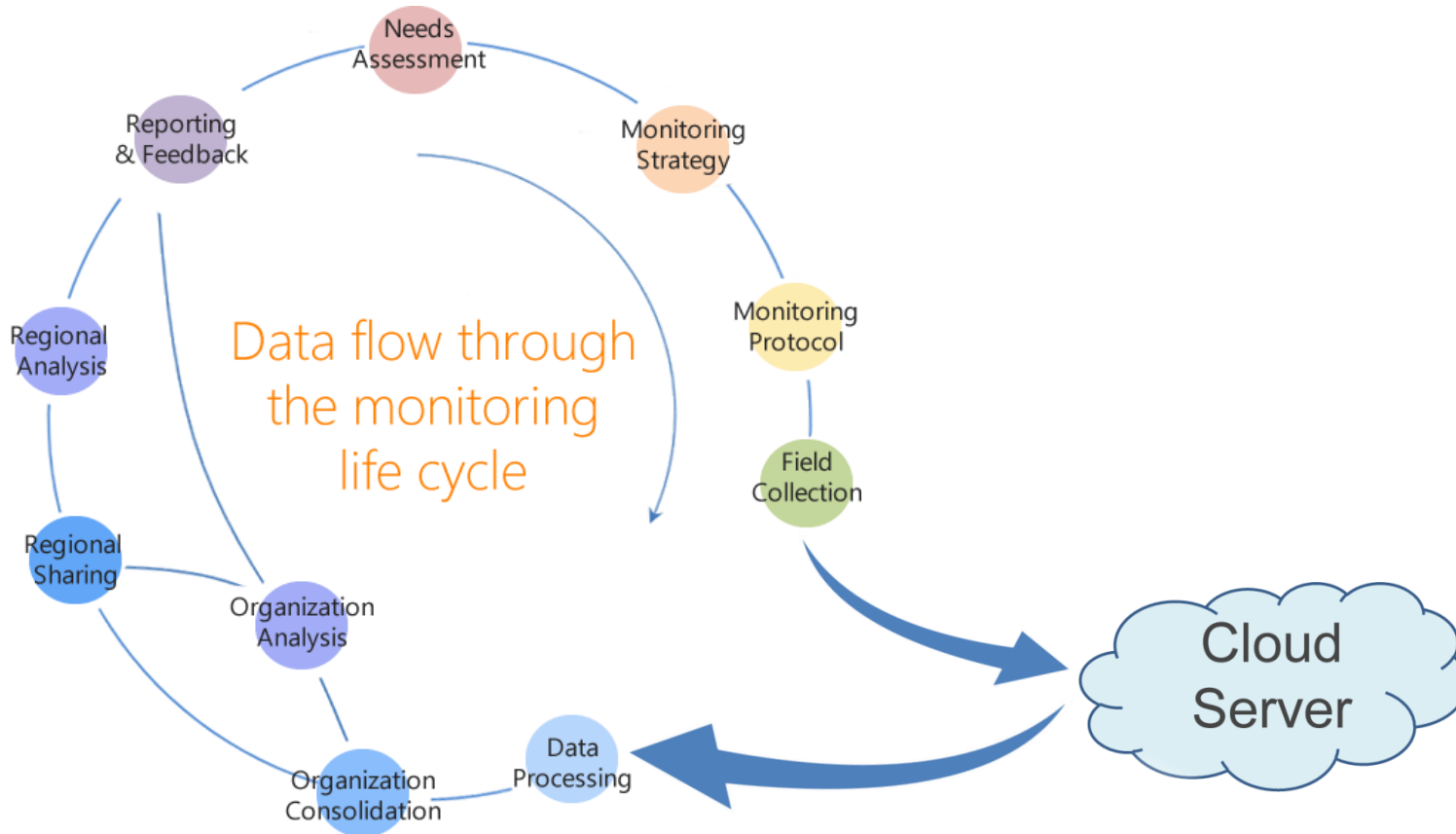


- Mitigate risks
 - Data loss
 - Bad data
 - Duplicated data
 - Repeated collection efforts
 - Etc.



- Accessibility and Easy Data Sharing

Data Life Cycle for the CJHP



Adapted from Coordinated Assessments, PNAMP 2013

CJHP Data Management



- Effective, accurate and efficient data collection
- Rigorous QA/QC
- Expedient and secure transfer of field data to the database
- Database architecture to fit needs of the CJHP
- A user-friendly data dashboard where data and reports can be accessed from multiple locations.

Unique features of the System



- Customized forms
- Hand-held rugged tablets (Yumas) – internal GPS
- Software – current technology
- Reporting/desktop
- Secure, wireless and instant data storage
- Efficient collection of and Access to High Quality Data.
- **Data – lots of data!**

Examples of the System



1. Juvenile Trap Counts
2. Data Validation
3. Simplify Tasks

Example: Juvenile Trap Counts



Check Screw Trap

April 02, 2013 :Date
16:41 :Time

Chinook

Unmarked

AD Clip

Recap

| | | | | | | |
|-------------|----------|------------|-------------|----------|------------|-----------------|
| Alevin 0 | Fry 0 | Smolt 0 | Alevin 0 | Fry 0 | Smolt 0 | Recap Dyed 0 |
|-------------|----------|------------|-------------|----------|------------|-----------------|

Dead Unmarked

Dead AD Clip

Dead Recap

| | | | | | | |
|-------------|----------|------------|-------------|----------|------------|-----------------|
| Alevin 0 | Fry 0 | Smolt 0 | Alevin 0 | Fry 0 | Smolt 0 | Recap Dyed 0 |
|-------------|----------|------------|-------------|----------|------------|-----------------|

Count By:

| | |
|------------------------------------|-------------------------|
| +1 | +5 |
| +25 | +100 |
| <input checked="" type="radio"/> + | <input type="radio"/> - |

Totals:

| | Alive | Dead |
|--|-------|------|
| <input type="radio"/> Sockeye | 0 | 0 |
| <input checked="" type="radio"/> Chinook | 0 | 0 |
| <input type="radio"/> Steelhead | 0 | 0 |
| <input type="radio"/> Other | 0 | 0 |

Done

Example: Data Validation



Fish Measurement

Location At the trap At the trailer

Species


Lifestage

Fork Length (mm)

Weight (grams)

AD Clip Absent Present

CWT Absent Present

PIT Tag 

Notes

Deformities /Injuries

Biosampling

Example: Simplify Tasks



Home

Check Screw Trap

April 02, 2013 :Date
16:41 :Time

Redeploy Trap Measure

Chinook

Unmarked

| | | |
|--------|-----|----|
| Alevin | Fry | Sm |
| 0 | 0 | |


Dead Unmarked

| | | |
|--------|-----|----|
| Alevin | Fry | Sm |
| 0 | 0 | |

Redeploy Screw Trap

(time the cone is out of the water)

Start



Stop

Total time: 00:00

Reason: Debris

OK CANCEL

Done

Count By:

| | |
|------------------------------------|-------------------------|
| +1 | +5 |
| +25 | +100 |
| <input checked="" type="radio"/> + | <input type="radio"/> - |

Totals:

| | Alive | Dead |
|--|-------|------|
| <input type="radio"/> Sockeye | 0 | 0 |
| <input checked="" type="radio"/> Chinook | 19 | 22 |
| <input type="radio"/> Steelhead | 0 | 0 |
| <input type="radio"/> Other | 0 | 0 |

The CJHP Master Database System

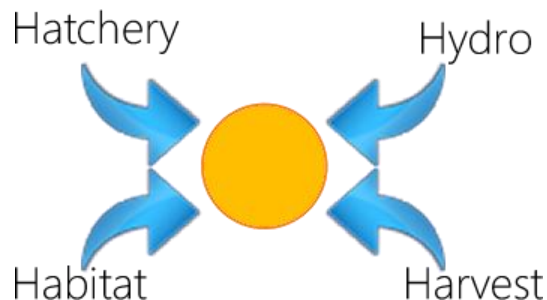


- Benefits from the use of rugged tablets (Yumas) for data collection (automatic data entry and QA/QC on-the-fly)
- Has a flexible design to allow for future modifications/development to conform with ever-changing monitoring and evaluation designs.
- Includes user-friendly reporting routines to allow users to view results of queries, create reports, and extract key data for modeling, mathematical calculations, etc.

Supporting CJHP annual decisions



- The goal of the APR is to *increase the overall scientific rigor and effectiveness of the programs that inform management decisions.*
- Development and adaptation for key assumptions and biological targets and enable the use of learned knowledge.
- This data system provides consistent data management among the 4 Hs.



Conclusions



- Data Management is a fundamental requirement of science-based programs
- Successful data management involves a robust database and data management plan
- Data are best managed at the time collection occurs
- Data systems enable queries, reports, and extraction of key data for modeling, mathematical calculations, etc.
- **Data management is all about quality data IN and easy ways to get the data OUT.**