

PNAMP

Metadata Guidance Document



Pacific Northwest
Aquatic Monitoring
Partnership



Bonneville Power
Administration

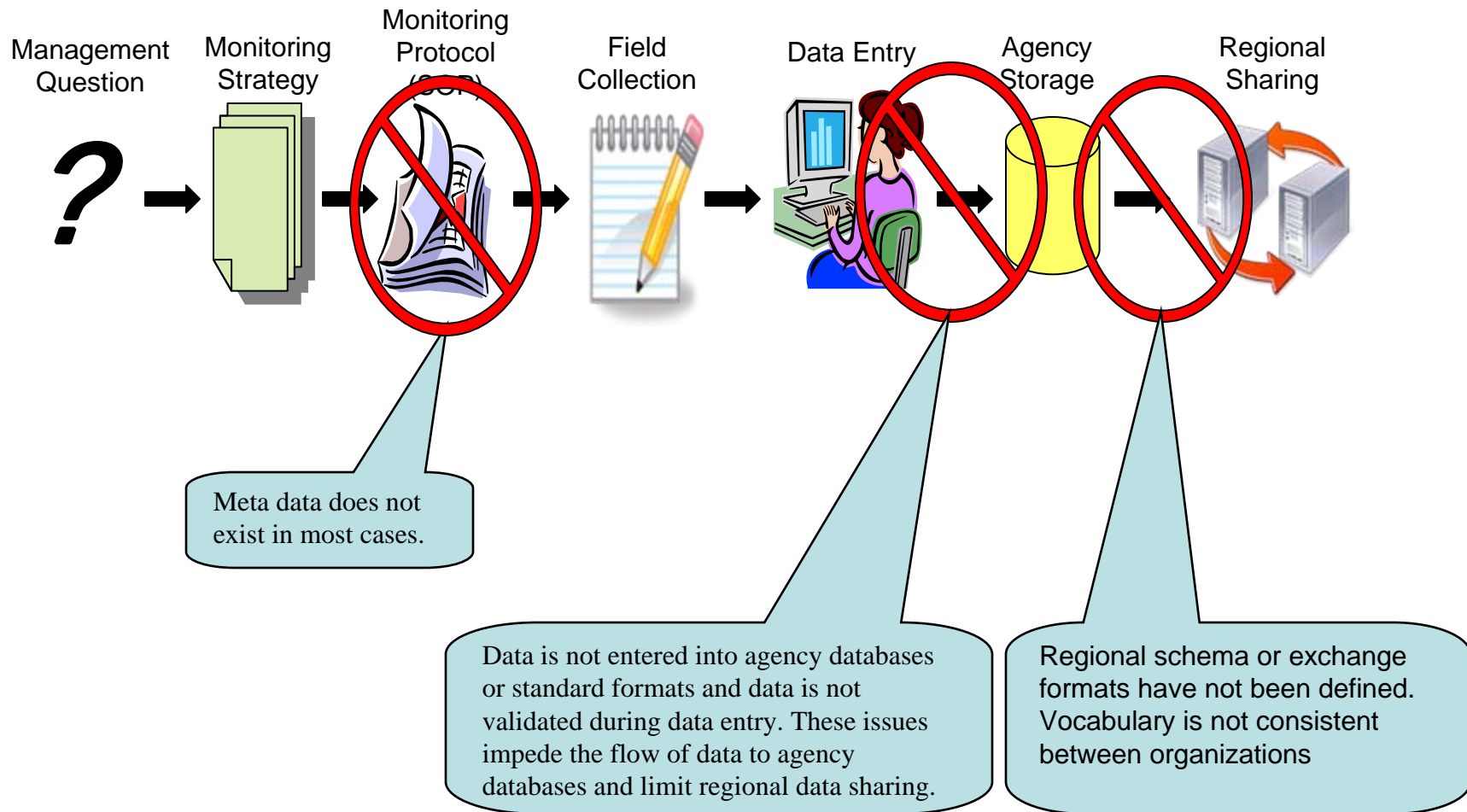
Steve Rentmeester
Environmental Data Services
<environmentaldataservices@gmail.com>

Work Flow



Organizations use workflows to produce products

Work Flow Gaps



Overview of Metadata Guidance Document

- Environmental Data Services contracted to lead metadata guidance task
- Review by PNAMP Metadata Workgroup
- Broad participation is encouraged
- Provides regional guidance on metadata standards
- Review existing tools and standards

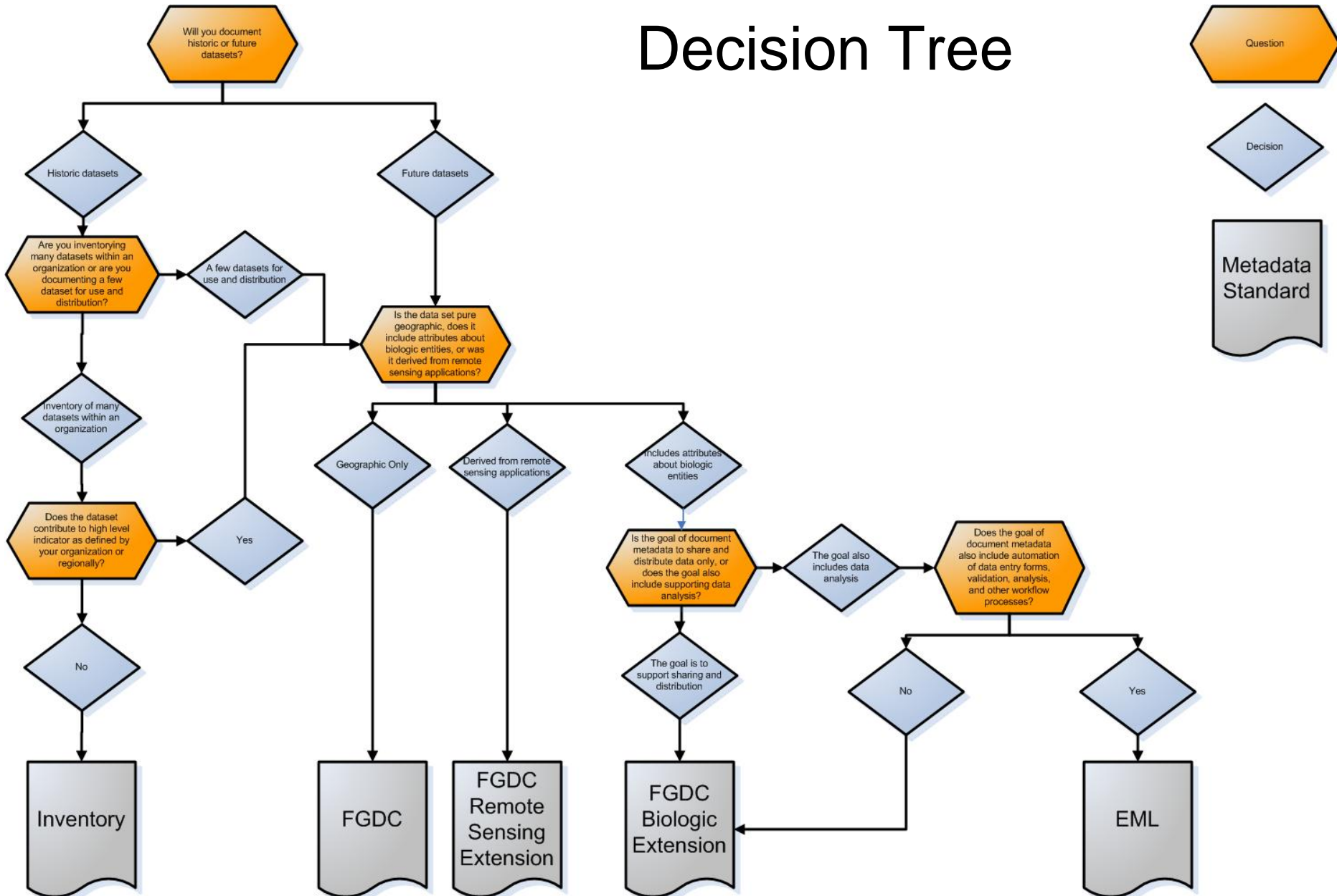
Target Audience

- Executives and Program Managers
 - need top down support to get metadata recorded
- Monitoring Coordinators
 - show the value of metadata on project objectives, monitoring questions, study design, data collection, and metric calculation
- Data Practitioners
 - demonstrate functionality of metadata driven applications that utilize machine readable metadata
- Field Practitioners
 - show why recording metadata is important; create metadata before anyone goes into the field

Assumptions

- Metadata has many uses
 - documentation, discovery, validation and analysis
- Recommend CSDGM Compliant Standards
 - FGDC with various extensions for current and future data
- Historic Data
 - Overwhelming backlog
 - Inventory and prioritize data sets
- CSDGM Limitations
 - Not enough detail for some regional goals (form creation, data validation, analysis)
- Do Not Contradict Established Practices
- Best Practices Recommendation
 - Implementation is a significant problem

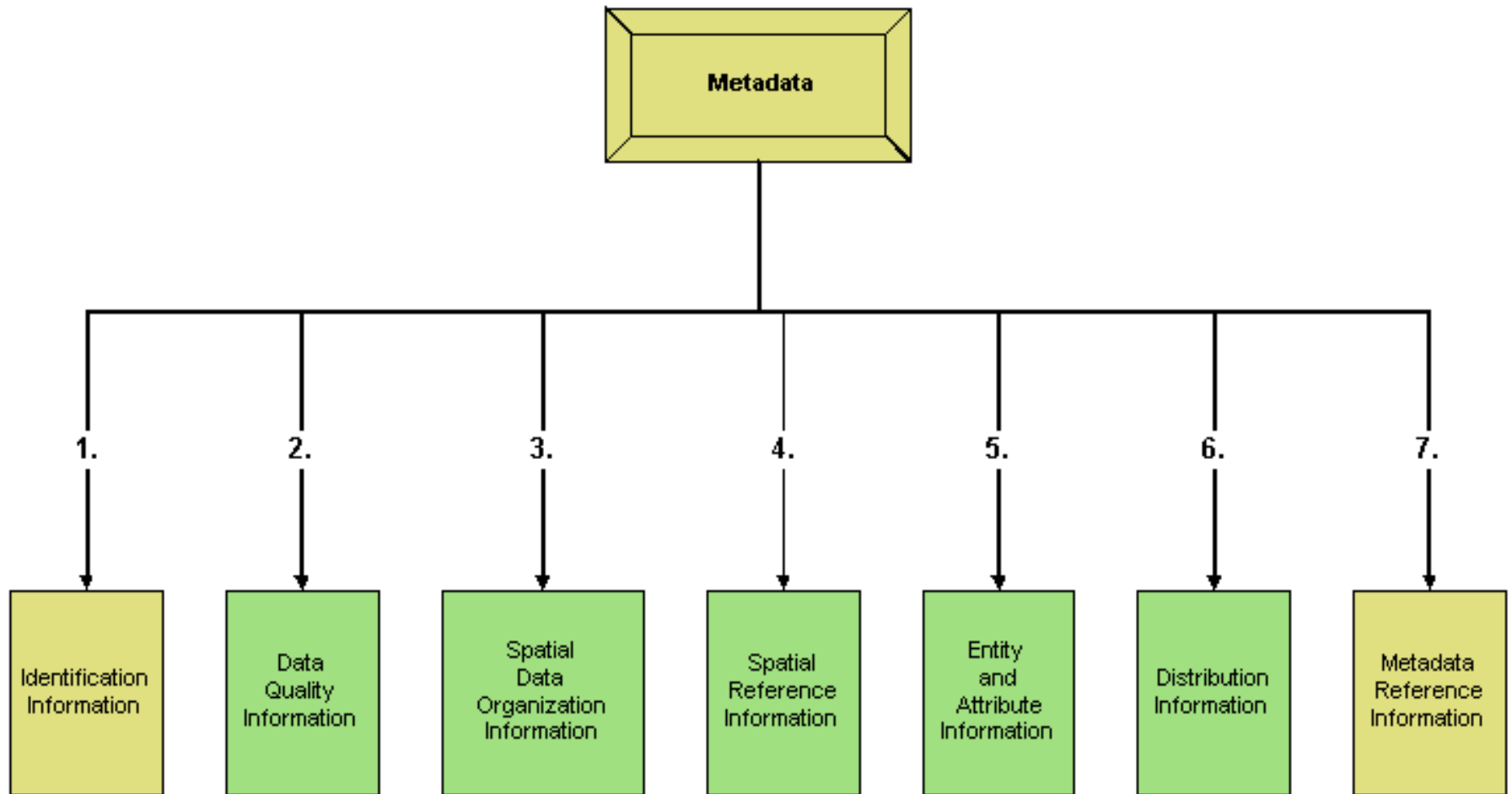
Metadata Decision Tree



Content Standard for Digital Geospatial Metadata (CSDGM)

- Federal Geographic Data Committee (FGDC)
- Executive Order 12096 established it as federal standard
- Originally adopted 1994; Revised 1998
- Extensions and Profiles
 - Extension for Remote Sensing
 - Biological Data Profile
 - Shoreline Data Profile

Content Standard for Digital Geospatial Metadata (CSDGM)



Biological Data Profile

- Approved profile to CSDGM
- Provides additional fields
- Taxonomy, methodology, and analytical tools
- Both geospatial and non-geospatial data sets

ISO 19115

- International Organization of Standards
- International metadata standard
- Each nation can craft their own profile

North American Profile

- North American Profile of ISO 19115
- Revision of CSDGM
- FGDC and Canadian General Standards Board
- Currently available (July 2009)
- Currently no extension for biologic data

Ecological Metadata Language (EML)

- Developed by the ecology discipline
- Developed for ecological data
- Prior work by the Ecological Society of America
- Compliance with CSDGM
- An extensible, flexible, metadata standard
- Series of XML document types
- Use in data analysis and archiving
- Allow automated machine processing
- Edit with MetaCat

<http://knb.ecoinformatics.org/software/eml/>

Ecological Metadata Language

Modules

- Access
- Attribute
- Constraint
- Coverage
- Dataset
- DataTable
- Entity
- Literature
- Methods
- Party
- Physical
- Project
- Protocol
- Resource
- Software
- SpatialRaster
- SpatialReference
- SpatialVector
- StoredProcedure
- Text
- UnitTypeDefinitions
- View

Questions

PNAMP Data Management

<http://www.pnamp.org/web/Content.cfm?SectionID=3#DM>

Steve Rentmeester

Environmental Data Services

503-247-8431

environmentaldataservices@gmail.com

Document Outline

- I. What is metadata
 - a. Description
 - b. Types of metadata
 - i. identification
 - ii. data quality
 - iii. spatial data organization
 - iv. spatial reference
 - v. entity and attribute
 - vi. distribution
 - vii. metadata reference
- II. Why use metadata?
 - a. Types of uses
 - i. search and discovery
 - ii. interpretation and use
 - iii. automation
 - b. Organizational benefit
 - i. protect investment
 - ii. improve workflow efficiency
 - iii. limits liability
 - iv. organizational stature
- III. Standards
 - a. FGDC / ISO Draft Standard
 - b. FGDC with Biologic Extension
 - c. Ecologic Metadata Language
- VI. Allocation of limited resources for metadata creation
 - a. allocation criteria
 - b. recommendations