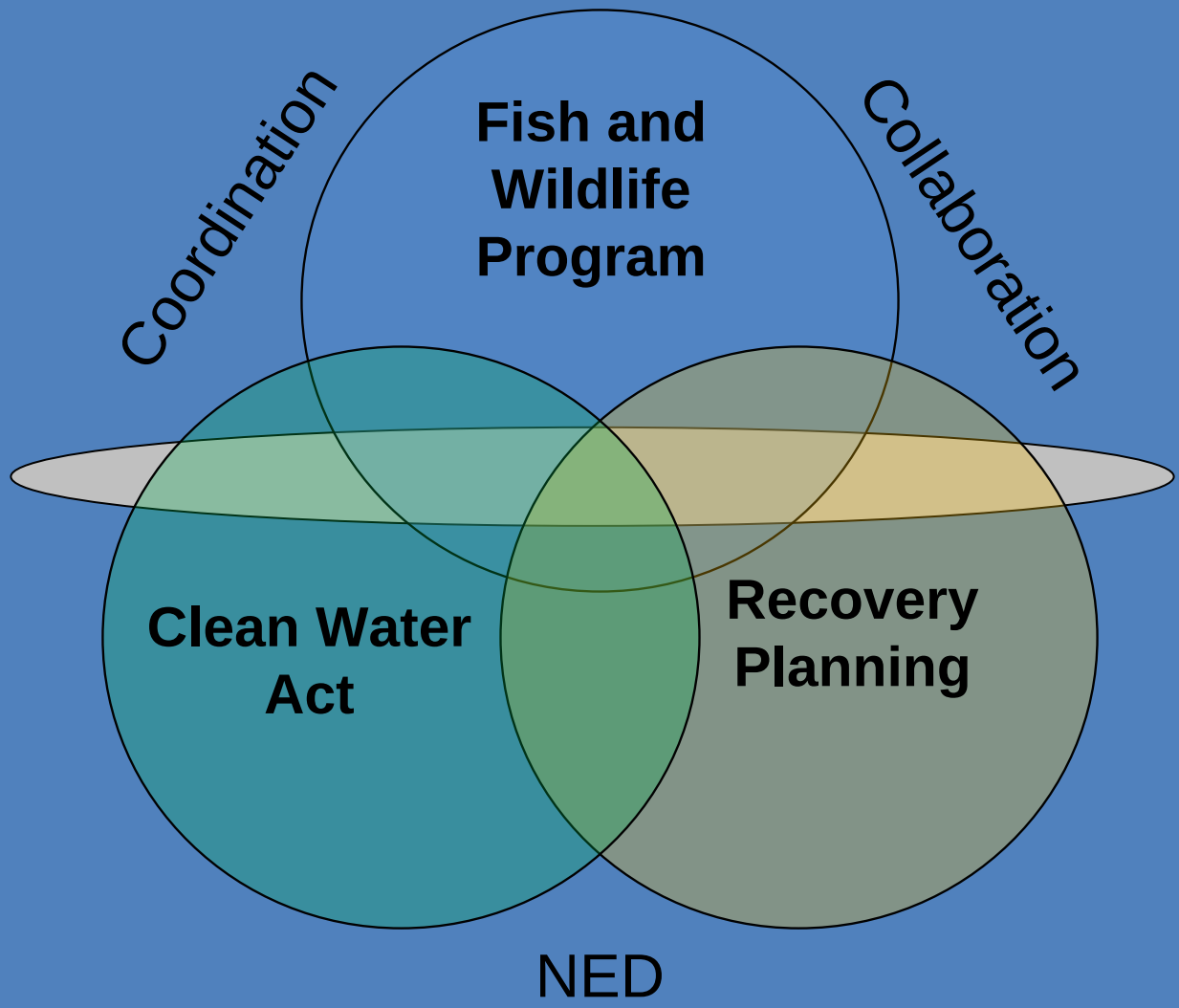
Developing a Strategy for Managing Fish, Wildlife and Habitat Data for the Columbia River Fish and Wildlife Program

July 11, 2007
Presentation to the NPCC
Fish and Wildlife Committee

Stewart Toshach –NOAAF
Phil Roger – CRITFC
Tom Iverson – CBFWA
Tom O'Neil – NHI
Dave Tetta - EPA

Outline of Strategy

1) Introduction and purpose
2) Present Data Management Approaches
3) Regional Information Needs
4) Strategy for Moving Forward
    a) Build from strengths
    b) Fill gaps
    c) Integrate with other regional efforts


Coordination
Fish and Wildlife Program
Collaboration
Clean Water Act
Recovery Planning
NED

Sources of Information

- Agency programs and systems
  - Largest source of data
  - Funded by agencies
  - Developed to meet agency mandates, not regional needs
  - Evolve slowly
- Fish and Wildlife Program projects
- Other sources
  - Inter-agency projects – Orphan Data
    (e.g. subbasin planning, hatchery reform, etc.)
  - Peer-reviewed literature
  - Technical reports (e.g. ISAB, PSC, agencies, etc.)

Existing Information Systems Are Not Designed For Meeting Regional Needs

Existing systems typically:

- Contain most of the existing data on fish and wildlife populations and their habitats
- Were built to meet the management mandates of single agencies or programs
- Were created *ad hoc* as needs arose
- Use different technology and applications
- Use different definitions of the same data
- Have different levels of documentation of data , from very little to well described
- No single document describing data that all entities need
- Few formal business rules

Regional Information Needs Are Broader Than Single Programs

- Complex issues and user communities
- Multidisciplinary information needs
- Cross-jurisdictional data are required
- Assessments are made at large spatial scales (roll-up of local data)
- New reports and assessment tools create evolving information needs

Summary of Data Management Problems

- **Data Collection**
  - Inconsistencies in what is collected
  - Inconsistent data quality
- **Data Sharing**
  - No inventory of what is available
  - Difficult to access data
  - Data generated with public funds are not always readily available
- **Data Usage**
  - No way to synthesize and communicate the data that do exist
  - Significant gaps in existing data
  - Insufficient support for regional efforts (e.g. SOTR, recovery planning, subbasin planning, hatchery reform, etc.)

Source: ISRP, ISAB, SAIC reports

We have learned key lessons from past experience

- Consistent data management practices (not just technology) require policy-level support
- The whole **IS** greater than the sum of the parts – Data have value beyond their initial purpose
- Developing efficient methods to move data from field collection into organized databases will yield the largest initial benefits
- Effective information management is an ongoing effort, not an episodic task
- Data management schema may require both distributed and warehouse approaches
- Coordinating and planning ahead for data sharing is cheaper, faster, and provides higher quality data than acting after the fact

We Are Making Steady Progress

- Data sharing business rules (NED White Papers, StreamNet DEFs)
- New data layers (e.g. limiting factors, global warming, SBPs)
- Data needs & priorities (PNAMP Management Questions, BiOps)
- Data gaps (SOTR, etc.)
- Data collection protocols (CSMEP Study Designs, AFS book)
- Quality assurance guidelines (NED White Paper)
- Core metadata standards (USGS metadata training)
- Location and temporal data standards (NED White Paper)
- Names (CBFWA Amendment Strategy)
- Recent efforts provide alternative technologies (e.g. PNWWQX, ISEMP, NED Portal, IDFG)

NOTE: Standards from FGDC, ISO and other organizations are being incorporated

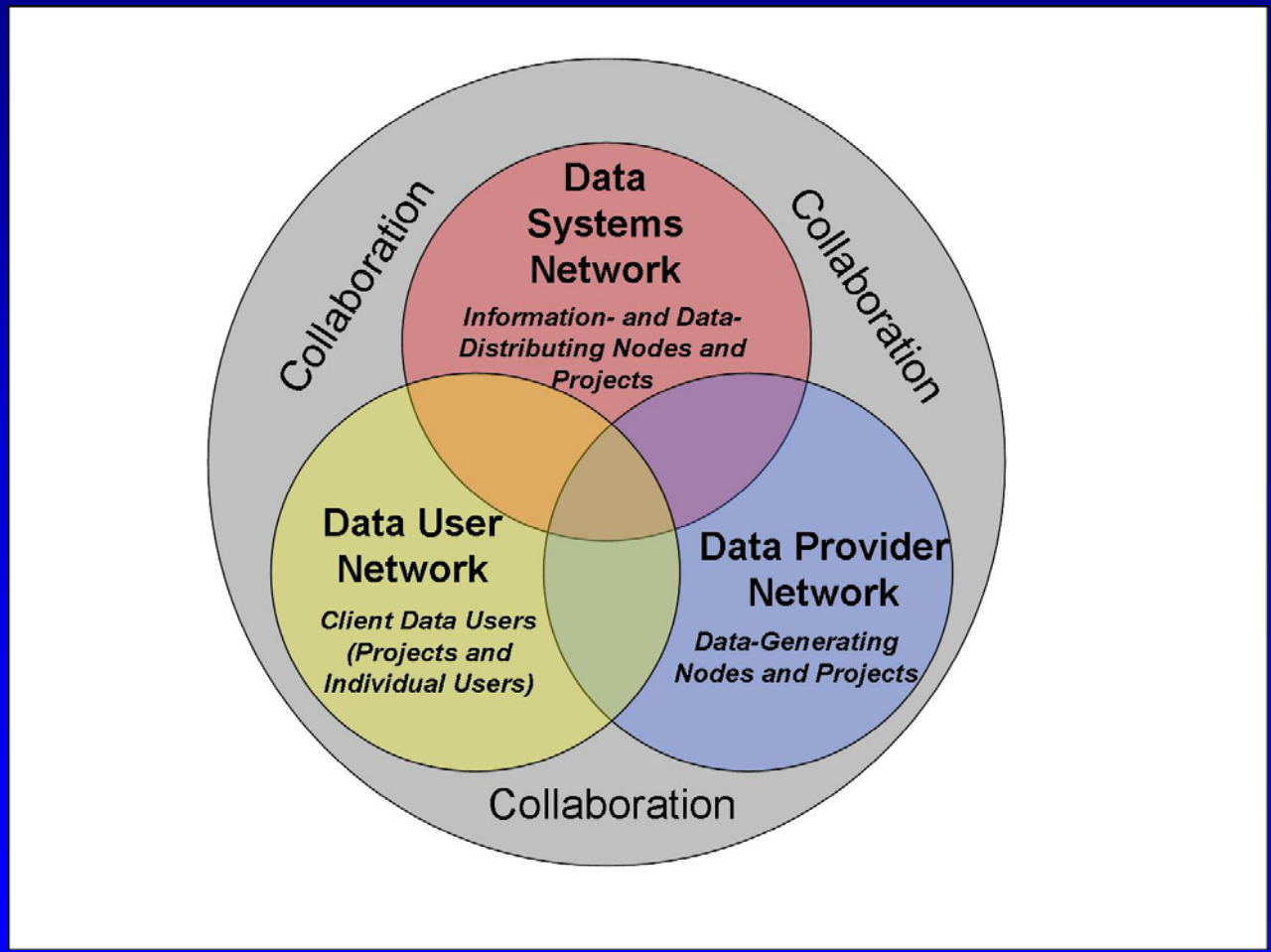
Moving Forward:

What are the Important Elements for Meeting Information Needs?

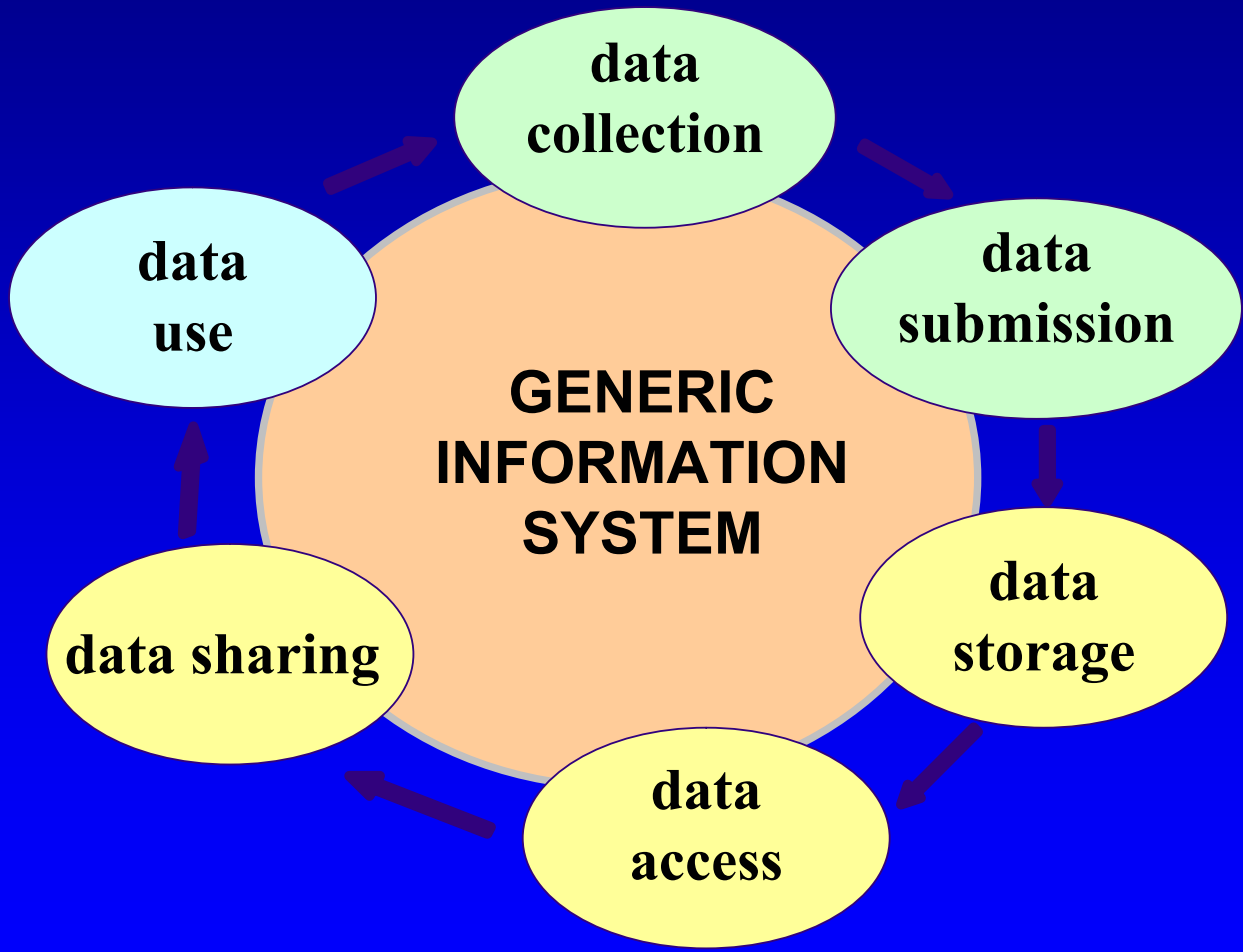
1 – Cross-Agency Agreements and Commitments

Most of the solution depends on adoption of administrative and business arrangements, agreements, and protocols – all of which depend on executive coordination and consent.

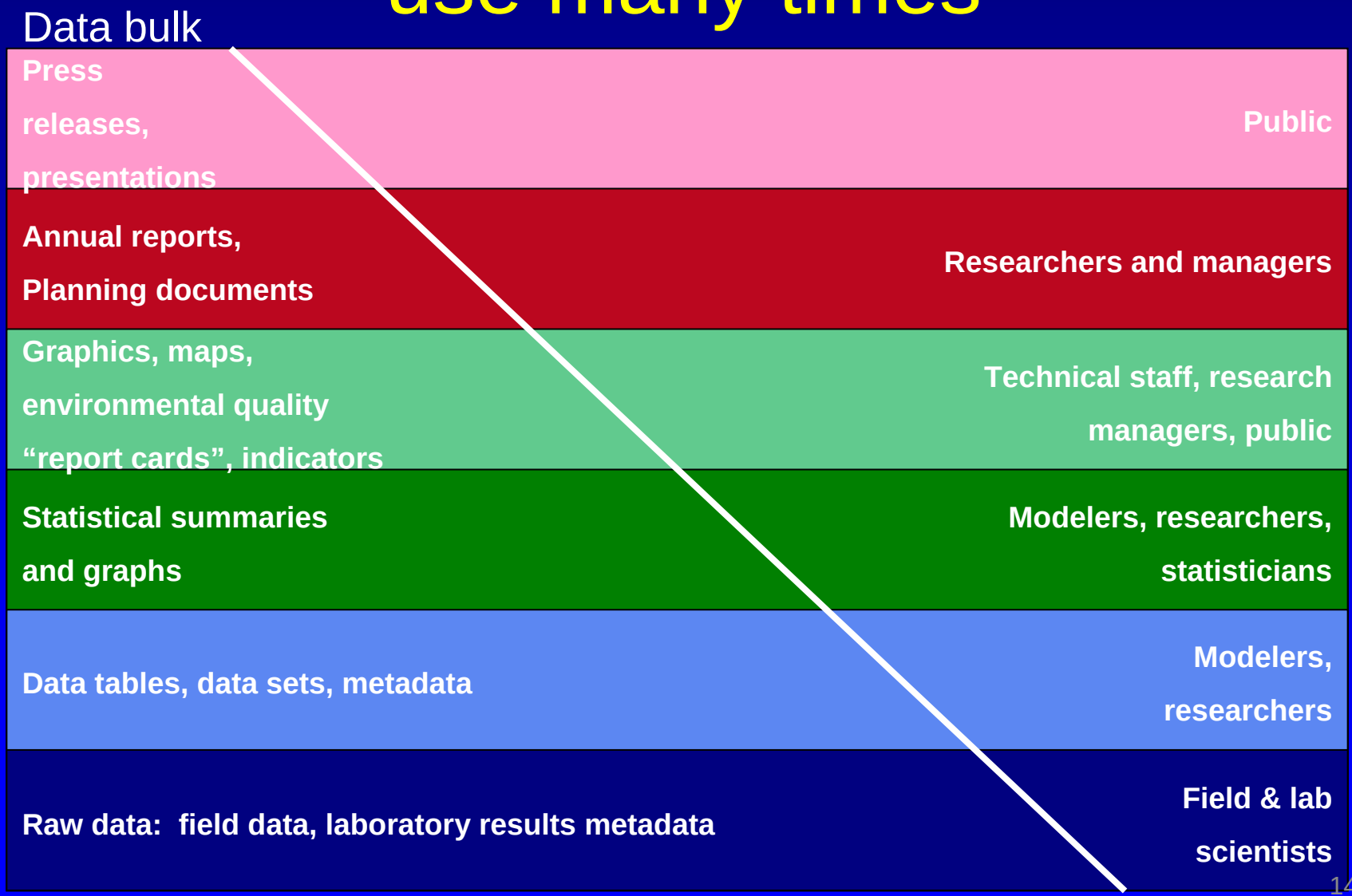
2 – Coordination and Cooperation



People Working Together



3 – Efficiency: Collect once and use many times

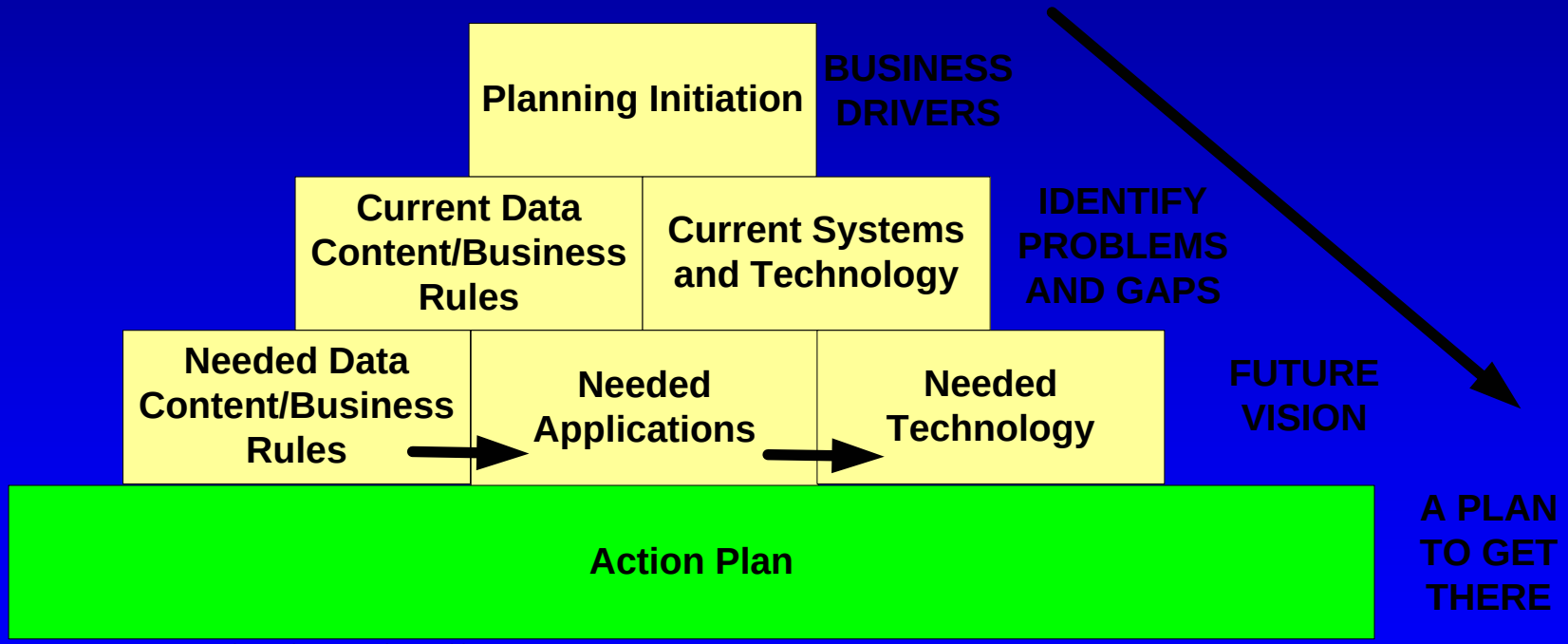


SAIC report 2001

4 – Adopt Common Goals

- Provide a mechanism to evaluate progress toward Program success and natural resource management objectives
- Improve Data Systems for Timely Reporting of Salmon Recovery and Watershed Health Information
- Support development of new analytic tools and reports

5 - Adopt a Common Approach



From Steven H. Spewark, PHd - Enterprise Architecture Planning

6 – Share Responsibility for Implementation

- Agencies incorporate Best Practices
- Share technology and applications (pool resources)
- Develop cost-share arrangements
- Test alternative technologies (e.g. PNWWQX, ISEMP< NED Portal, IDFG, etc.)
- Start with small scale pilot and prototype solutions for existing problems and gaps

Schedule for Deliverables

- Develop Comprehensive Data Management Strategy
  - NED and CBFWA approval in August
  - Submit to NPCC in September
- Develop FY08-09 project funding recommendations
  - NED and CBFWA approval in August
  - Submit to NPCC in September

SUMMARY

- We are making steady progress and know what needs to be done
- We need executive support for the strategy – October Summit
- Improvements will require initial investments to realize long-term efficiencies