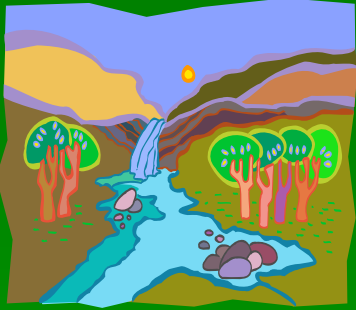




*Wildlife Monitoring
Implementation Strategy*

Organization and Structure



MERR Plan Structure

Strategic Plan

Guides

Implementation Framework

Guides

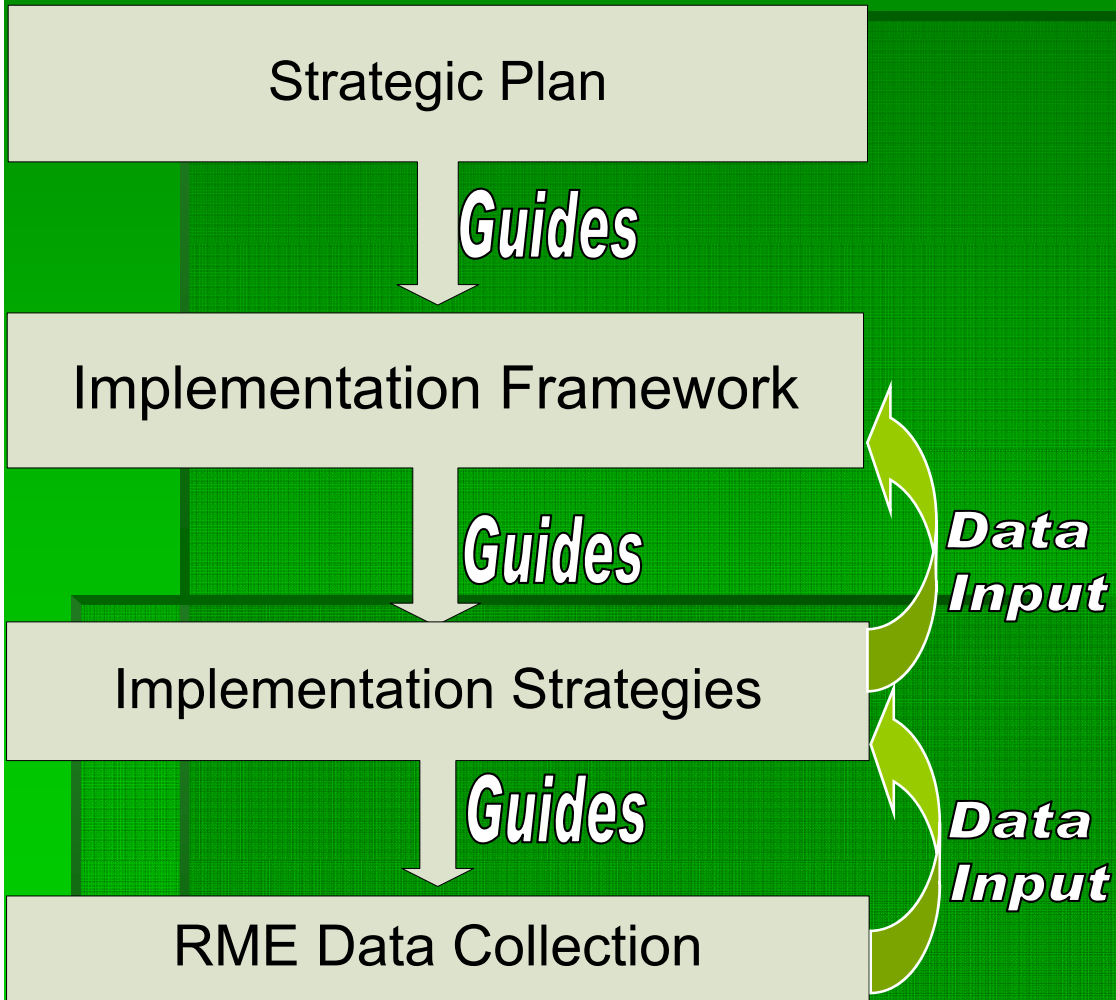
Implementation Strategies

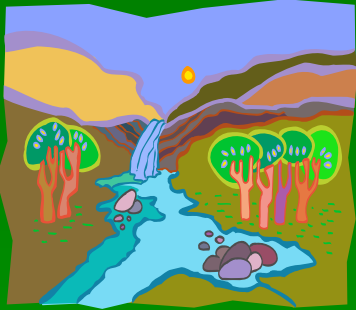
Guides

RME Data Collection

*Data
Input*

*Data
Input*

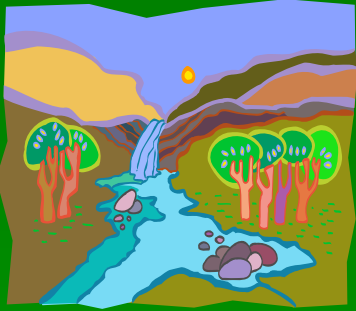




MERR Revision Approach

First phase of the revision to the draft MERR Plan, the staff revised the draft Plan consistent with these comments. Future drafts produced between 2010 and 2014 also will be posted on the Council's website.

Larger policy issues, requiring NPPC guidance, are organized into three different categories or "buckets" for treatment based on the complexity of the issue, how fundamental it is to the Plan's approach and based on a phased approach.



MERR Plan Structure

Implementation Framework

Strategic Plan

Broad Guidelines:

- FW Program Management Questions
 - FW Program Biological Objectives
- } What to do

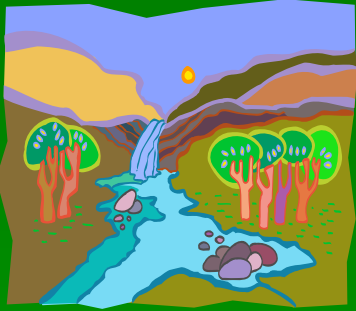
Implementation Strategies

- Basinwide Prioritization Criteria
- } What's more important

RME Data Collection

- Basin Research Approach (Appr.)
 - Basin Monitoring Approach
- } How to do it

- Basin Evaluation and Reporting Appr.
 - Basin Data Management & Sharing Appr.
- } What Data is needed



MERR Plan Structure

Implementation Strategies

Strategic Plan

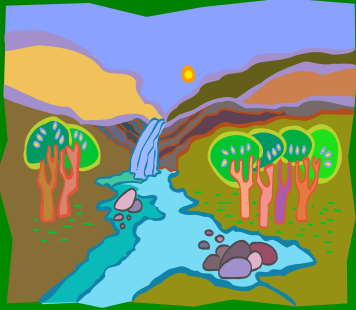
Implementation Framework

RME Data Collection

Broad Guidelines:

- **Guide regional development of implementation strategies**
- **Compatible anadromous, resident fish and wildlife strategies**
- **Incorporates relevant regional products (CBFWA, UCUT, etc.)**

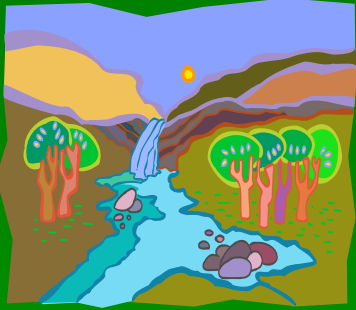
To be Developed with Region



Wildlife Implementation Strategy

A regional approach will be used to assist Council development of this strategy.

- Incorporate, as appropriate, the content regional products such as the FCRPS Wildlife Mitigation Monitoring and Evaluation Framework being developed by the Wildlife Advisory Committee of CBFWA, the Draft Monitoring and Evaluation Plan for the UCUT Wildlife Monitoring and Evaluation Program and other similar products.



Standardized Approach for Implementation Strategies

- Management questions and indicators
 - Objectives and performance standards
 - Prioritization criteria and rationale
 - Identification of priorities
 - Standards for data quality, including precision and accuracy
 - Preferred study designs and statistical analysis
 - Preferred performance measures and protocols, and
 - Data management, data sharing, and reporting.
- Standardized Components

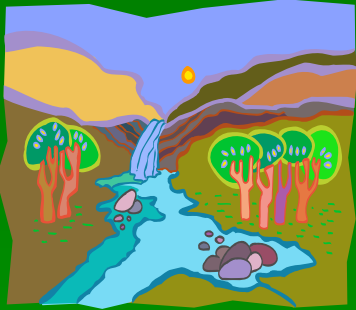


Developed with regional partners and incorporate relevant regional products by 2011



Evaluation and Reporting Approach – Programmatic Focus

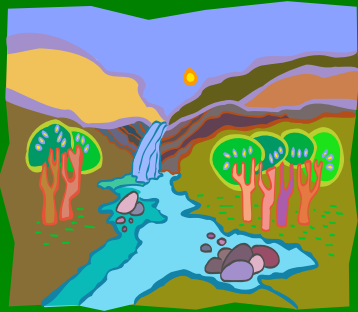
- Program Review, Project Review, and Proponent Exchange
 - Scientifically sound and credible
 - Apply guidance from MERR
 - ISRP-Project Proponent Exchange
- Science-Policy Exchange
 - Assist with developing Council policy science and technology
- High Level Indicators & Fish and Wildlife Indicators
 - Council Report to Congress & CBFWA's Status of the Resource Report
- Program Synopsis
 - Factors addressed for priority species and habitat characteristics



Data Management & Sharing Requirements Approach

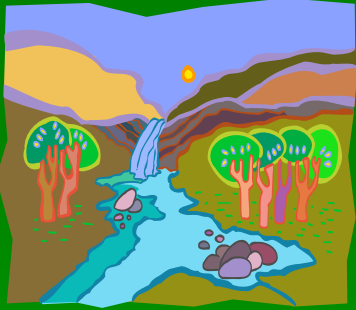
- Data and metadata publicly available in an electronic format
- Data needed to report, at a minimum, on:
 - Council's High Level Indicators
 - Council's Fish and Wildlife Program Indicators
 - NOAA's Viable Salmonid Parameters
 - Effectiveness for Program actions
 - FCRPS Biological Opinion
- Specifies minimum reporting criteria guidelines
 - Performance measures (metrics), study design, methods, etc...





Next Steps

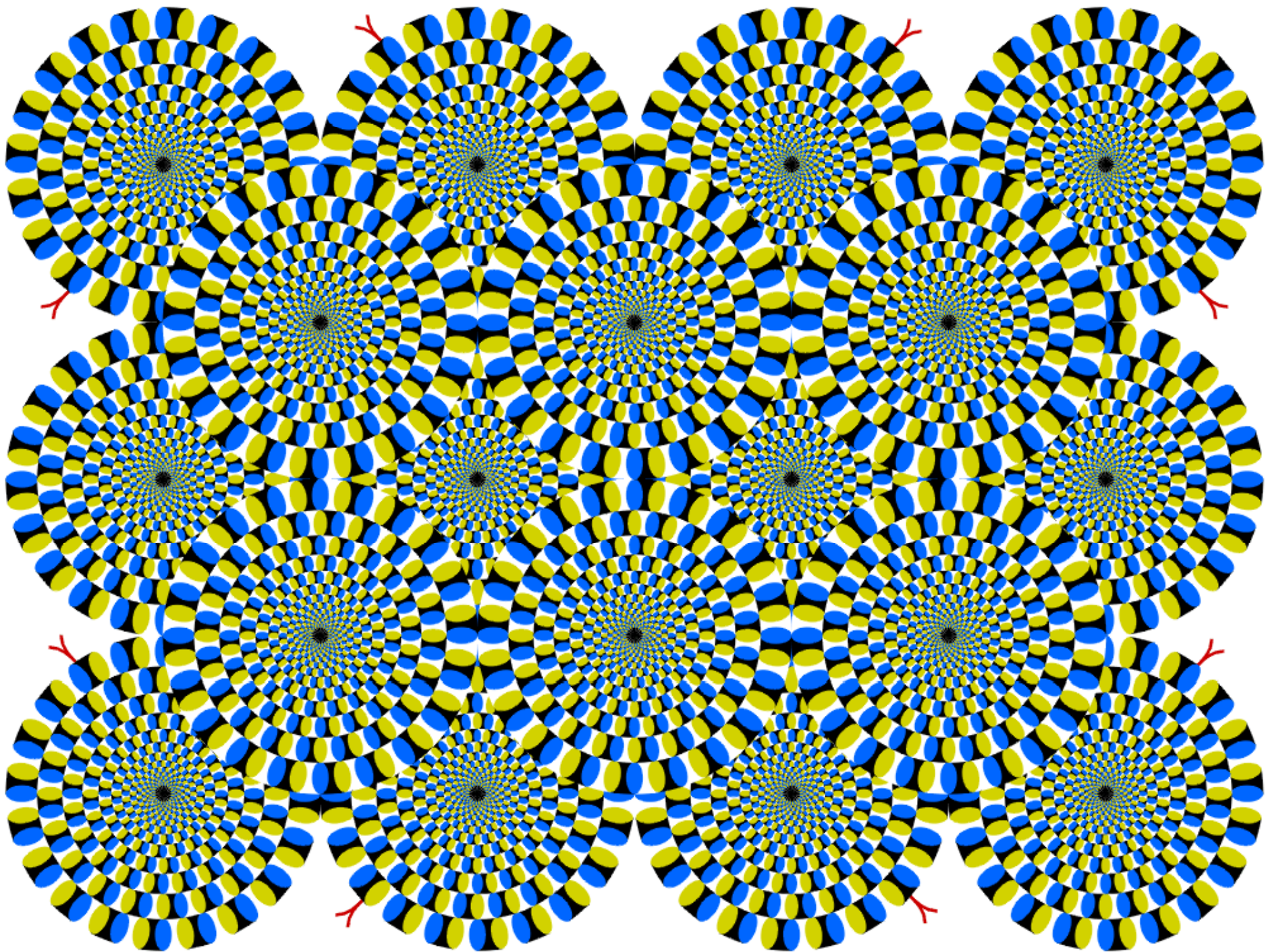
- **Biological Indicators for Wildlife**
 - **HEP HSI and related Cover Types**
 - **Cover Types and Subbasin Plans**
- **Management Questions**
 - **Cover Type and possible associations/correlations**
- **Reporting and use of HLI**
 - **Cover Types and HLI**
 - **Utilization of Existing Project Guidance**
 - **Content, structure and approach**



Standardized Approach for Implementation Strategies




































- Management questions and indicators
 - Objectives and performance standards
 - Prioritization criteria and rationale
 - Identification of priorities
 - Standards for data quality, including precision and accuracy
 - Preferred study designs and statistical analysis
 - Preferred performance measures and protocols, and
 - Data management, data sharing, and reporting.
- Standardized Components





Vegetation Classification Kootenai Subbasin

Legend

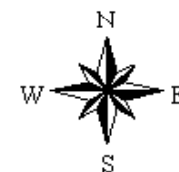
- Kbveg
-  Agricultural
 -  Barren Alpine Tundra
 -  Bitterbrush
 -  Broadleaf Forest
 -  Cloud
 -  Cloud Shadow
 -  Cold Mesic Shrubland
 -  Douglas-Fir
 -  Douglas-Fir-Grand Fir Forest
 -  Douglas-Fir-Lodgepole Forest
 -  Engelmann Spruce
 -  Exposed rock
 -  Foothills Grasslands
 -  Grand Fir
 -  Lodgepole Pine
 -  Mixed Barren Land
 -  Mixed Mesic Forest
 -  Mixed Needleleaf/Broadleaf Forest
 -  Mixed Subalpine Forest
 -  Mixed Whitebark Pine Forest
 -  Mixed Xeric Forest
 -  Montane Parklands & Subalpine Meadows
 -  Ponderosa Pine
 -  Subalpine Fir
 -  Urban
 -  Warm Mesic Shrubland
 -  Water
 -  Western Hemlock
 -  Western Larch
 -  Western Larch-Douglas-Fir Forest
 -  Western Larch-Lodgepole Forest
 -  Western Red Cedar
 -  Western Red Cedar-Grand Fir Forest
 -  Western Red Cedar-W. Hemlock Forest
 -  No Data

Credits

**Original Classification thanks
to the University of Montana
Spatial Analysis Lab**

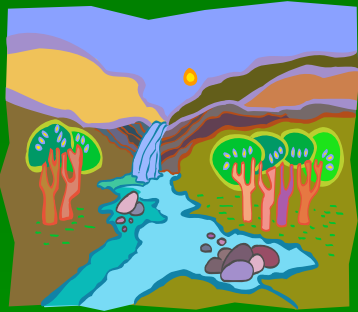
Produced for the Kootenai Tribe of Idaho,
Fish and Wildlife Dept by
PRSTRI using Spatial Technologies
www.prstg.com

70 Kilometers



0

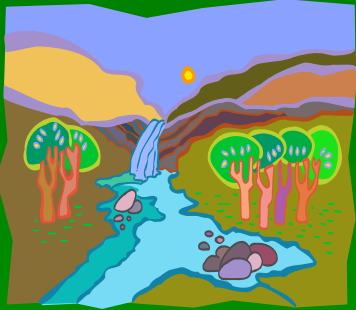




Albeni Falls Project ledger

**Table 11-4 Estimated Losses Due to Hydropower Construction
(losses are preceded by a “-”, gains by a “+”)**

Species	Albeni Falls	Habitat Units
Mallard Duck		-5,985
Canada Goose		-4,699
Redhead Duck		-3,379
Breeding Bald Eagle		-4,508
Wintering Bald Eagle		-4,365
Black-Capped Chickadee		-2,286
White-tailed Deer		-1,680
Muskrat		-1,756
Yellow Warbler		+171



Black-capped Chickadee

Cover Type(s):	Con. Forest	Con. Forest
----------------	-------------	-------------

Cover Type(s):	Rip.Dec.Forest	Rip.Dec.Forest
----------------	----------------	----------------

Transect No.:	1	2
	SI	SI

Transect No.:	Trout 6	Trout 8
	SI	SI

V1: % Tree Canopy Closure	0.80	0.70
V2: Ave. Ht. of Overstory Trees	1.00	1.00
V3: # Snags 4 to 10 inch DBH/acre	1.00	1.00

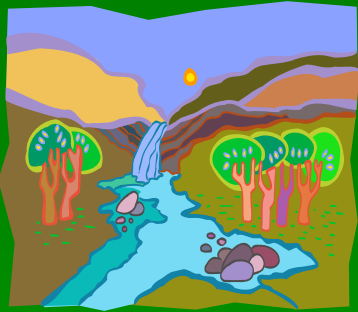
V1: % Tree Canopy Closure	1.00	0.90
V2: Ave. Ht. of Overstory Trees	1.00	1.00
V3: # Snags 4 to 10 inch DBH/acre	1.00	1.00

SI Food	0.89	0.84
---------	------	------

SI Food	1.00	0.95
---------	------	------

SI Reproduction	1.00	1.00
-----------------	------	------

SI Reproduction	1.00	1.00
-----------------	------	------



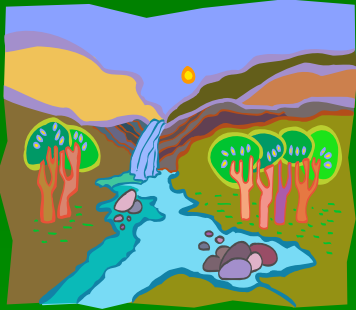
Upper Columbia - Habitats

	Shrub- steppe	Grassland steppe	Conifer Woodland	Mixed Conifer	Riparian Forest	Riparian Shrub	Wetland Meadow	Emergent Wetland	Tribe Totals
Coeur d' Alene									
Acres	0	0	533	665	781	102	575	30	2685
Percentage	0%	0%	20%	25%	29%	4%	21%	1%	
Colville									
Acres	21796	13609	2422	12832	230	1051	0	0	51939
Percentage	42%	26%	5%	25%	<1%	2%	0%	0%	
Kalispel									
Acres	0	0	0	860	193	166	2307	487	4012
Percentage	0%	0%	0%	21%	5%	4%	58%	12%	
Kootenai									
Acres	0	0	0	112	16	15	95	48	285
Percentage	0%	0%	0%	39%	6%	5%	33%	17%	
Spokane									
Acres	961	525	728	5308	192	234	0	0	7947
Percentage	12%	7%	9%	67%	2%	3%	0%	0%	
Habitat totals									
	23718	14658	4410	25084	1604	1800	2977	564	74815
	32%	20%	6%	34%	2%	2%	4%	1%	



Project Level Data Collection

- Keep doing what you are doing
 - Vegetation sampling
 - Biotic sampling
- HEP conversion – use the data (metrics in HSI - i.e. shrub cover), not the interpretation (HU's)
- Question = Mgr need; Monitor to answer the needed question



Comparison and Data Roll Up

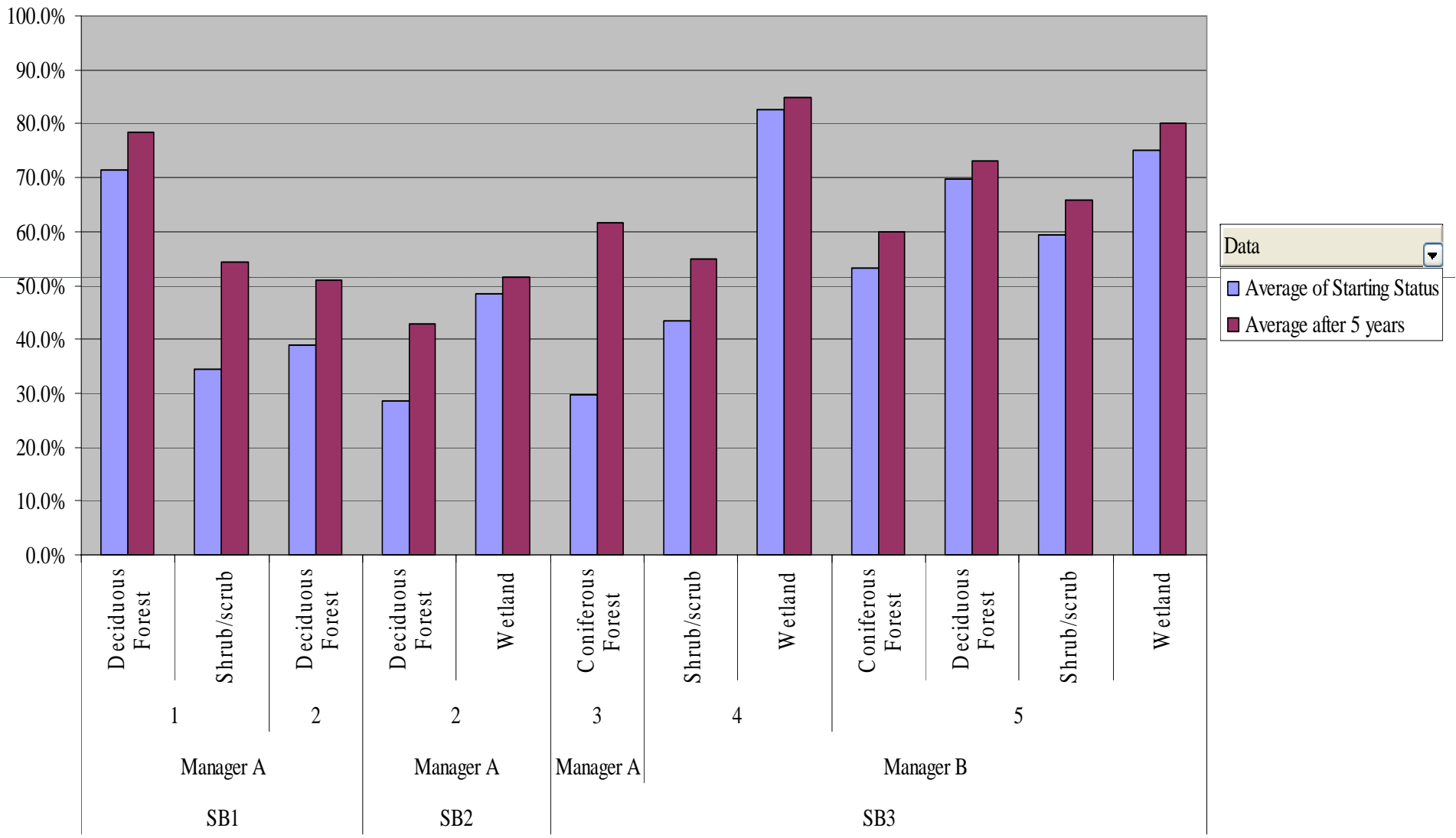
- Comparison/Assessment Measure:
 - Project objectives
 - Management plan objectives
 - HEP optimal
 - Reference conditions

- Roll up ANALYSES not DATA
 - Need to standardize vegetation classifications for roll up
 - Roll up analyses by vegetation classifications, manager, subbasin, basin (proportion/percent of acres meeting objectives, proportion/percent projects with improving conditions, etc.)
 - “Difference” between the Current Vs DFC become the metric for the roll up
 - Track % change - be consistent on reporting (not method)

Vegetation Cover Type	Metric	Measure	Mgmt objective	Start Condition	Period 1 Condition (1yr)	Period 2 Condition (5yr)	Start Status	Period 1 Status	Period 2 Status
Shrub/scrub	shrub cover	percent cover	75	25	25	30	33%	33%	40%
Shrub/scrub	bird species a	density per square mile	3	1.5	1.2	2.2	50%	40%	73%
Shrub/scrub	grass cover	percent native	100	20	35	50	20%	35%	50%
Deciduous Forest	deciduous tree cover	percent canopy	70	50	50	55	71%	71%	79%
Deciduous Forest	riparian species	proportion riparian species	90	34	34	38	38%	38%	42%
Deciduous Forest	size class distribution	number of size classes repr	5	2	2	3	40%	40%	60%
Deciduous Forest	insect diversity	number of families collected	35	10	12	15	29%	34%	43%
Wetland	proportion of wetland indicator herbaceous	proportion cover riparian sp	75	60	60	60	80%	80%	80%
Wetland	proportion of wetland indicator woody	proportion riparian species	30	5	5	7	17%	17%	23%
Coniferous Forest	Road density - elk his	mi of road/mi2	0	5	2.5	2	0%	50%	60%
Coniferous Forest	tree cover	percent canopy cover	75	25	25	30	33%	33%	40%
Coniferous Forest	amount of forage shrubs	percent canopy cover	70	60	60	65	86%	86%	93%
Coniferous Forest	weed	percent canopy cover	0	15	10	7	0%	33%	53%
Shrub/scrub	amount of fence line removed	miles of fence removed	30	2	4	6	7%	13%	20%
Shrub/scrub	perch sites	density per square mile	5	4	4	4.5	80%	80%	90%
Wetland	bird species b	density per square mile	2	1.7	1.7	1.8	85%	85%	90%
Wetland	mallard reproduction	duckling to female	5	4	2	4	80%	40%	80%
Shrub/scrub	sage grouse lek attendance	average number of males/lek	40	10	12	15	25%	30%	38%
Deciduous Forest	number of wintering bald eagle	average number of eagles/y	70	65	60	65	93%	86%	93%
Shrub/scrub	shrub cover	percent similarity to referenc	75	50	50	55	67%	67%	73%
Wetland	water depth	avearge water depth in mete	1	0.75	0.75	0.8	75%	75%	80%
Coniferous Forest	tree cover	percent canopy cover	75	40	40	45	53%	53%	60%
Deciduous Forest	tree cover	percent canopy cover	75	35	35	40	47%	47%	53%
Shrub/scrub	shrub cover	percent cover	75	65	65	65	87%	87%	87%

Type (All) ▾

(Mock) Roll Up Wildlife Analysis for 5-year Period



Data ▾
Average of Starting Status
Average after 5 years

Subbasin ▾ Manager ▾ Project ▾ Vegetation Cover Type ▾



Grand Coulee

- Sage Grouse -2,746
- Sharp-tailed Grouse -32,723
- Ruffed Grouse -16,502
- Mourning Dove -9,316
- Mule Deer -27,133
- White-tailed Deer -21,362
- Riparian Forest -1,632
- Riparian Shrub -27
- Canada Goose Nest Sites -74

Grand Coulee Dam Loss Assessment

Cover Type	Species
Shrub-steppe	Sharp-tailed Grouse
	Sage grouse, Mule Deer
Conifer Forest	White-tailed Deer
Riparian Forest	Bald Eagle, Beaver
	Ruffed Grouse,
	Long-eared Owl
Riparian Shrub	Beaver, White-tailed Deer
	Flicker
Grassland/agriculture	Mourning Dove, Long-eared Owl, Sharp-tailed Grouse
Macrophyllus Draws	Ruffed Grouse, Sharp-tailed Grouse, White-tailed Deer
Sand/Gravel/Cobble	Canada Goose