

***Inland Cutthroat Trout
Management and Conservation
Planning***

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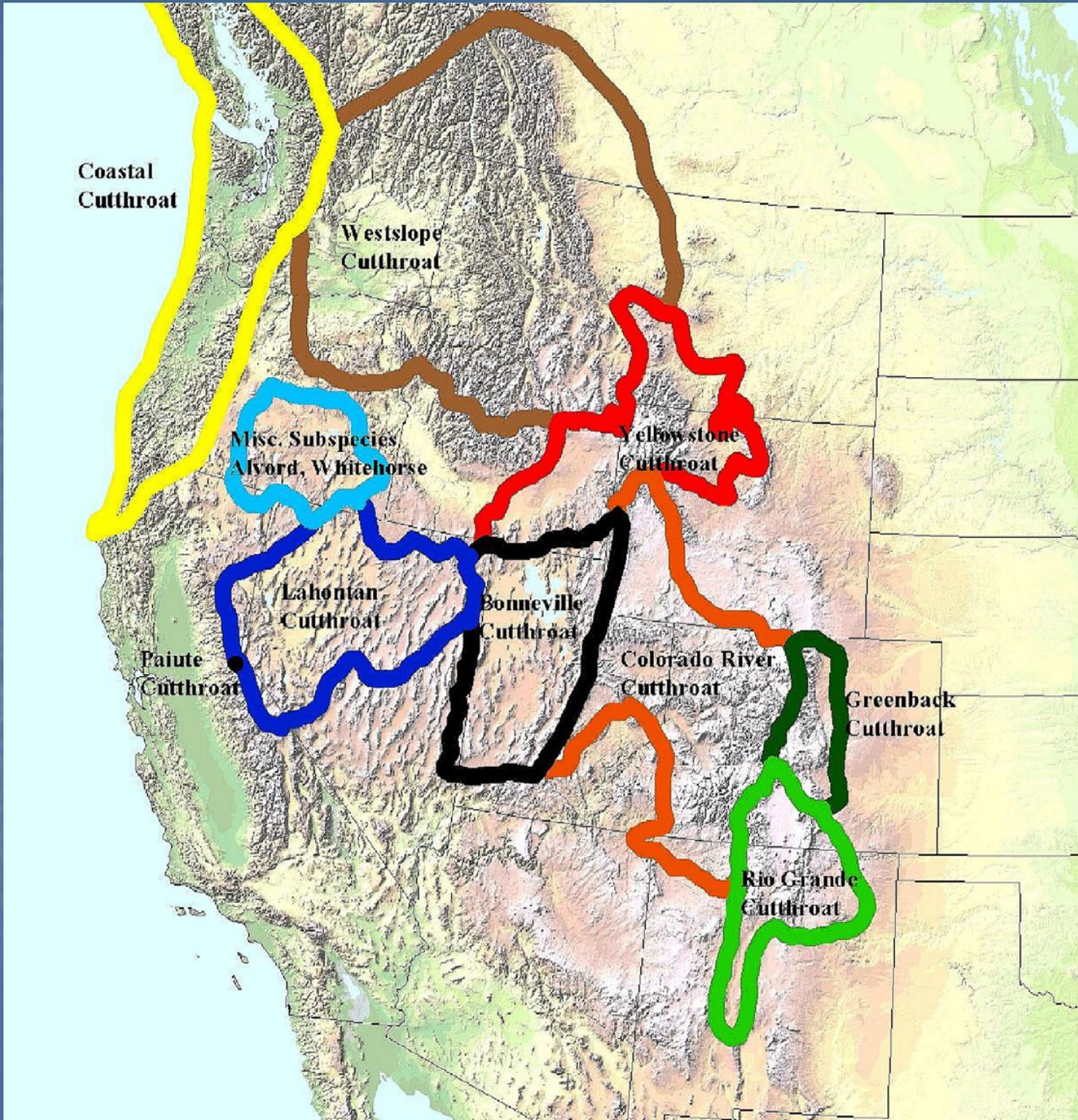
***Lessons Learned – Experience
Gained***



**Coastal Cutthroat Trout Symposium
September 29 – October 1, 2005**

***Cutthroat Trout Were Once the
Most Abundant and Widely
Distributed Trout in Western
North America***





Inland Cutthroat Conservation -- Focus on Conservation Program Planning

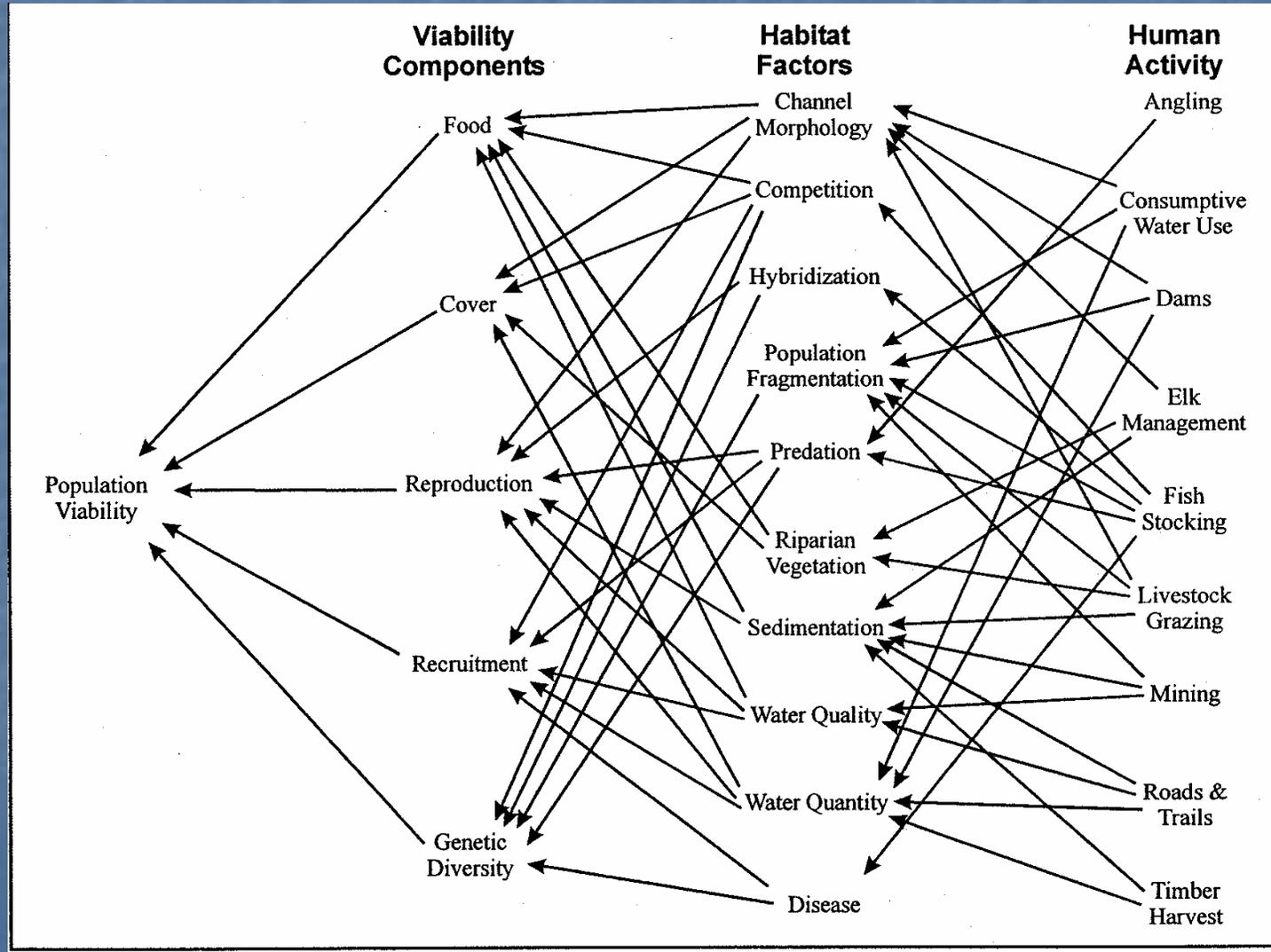
- *Historical Perspective and Changes in Management Paradigm*
- *Enter ESA and Recent "PECE" Policy*
- *Administration, Organization and Implementation Are Keys to Success*
- *Range-wide Status Updates*

Inland Cutthroat Management -- An Ever Changing Landscape



Park rangers planting fish in a Yellowstone lake, 1922.

Cutthroat Trout Conservation Can Be Complex



Cutthroat Conservation Expands *Cutthroat Management*

- Management geared to needs and wants of angling public.
- Focused on “harvestable surplus”, catch rate, size and diversity of fishing experience.
- User satisfaction a key measure of success.
- Conservation geared to needs of fish.
- Focus on “population viability”, genetic integrity, distribution and general population health.
- Health of fish key measure of success.

Conservation Associated with Changes in Attitudes and Views

- General change in the nature of public and professional interests in aquatic resources (e.g. from direct use toward indirect acknowledgement of value).
- Agency acknowledgement that conservation is an essential component of management.
- Expanded concern for native species (ESA).
- Litigation associated w/ ESA.

***All inland cutthroat trout
subspecies are covered
by either a recovery
effort or a conservation
program***

Current Inland Cutthroat Conservation Approaches

■ Recovery Teams

- Greenback
- Lahontan
- Paiute

■ Conservation Working Groups

- Bonneville
- Colorado River
- Rio Grande
- Westslope
- Yellowstone

***Enter ESA and
Environmental Group
Interest in Cutthroat
Trout***

Key Components of ESA

- Concern for species extinction.
- Enacts a formal procedure to identify which species will receive protection.
- Protection of ecosystems that support listed species is added focus.
- Provides a program to recover listed species (i.e. recovery planning and implementation).
- Intended to be a “partnership” between State and Federal government.

***ESA Invites and/or
Encourages Litigation***

***All Inland Cutthroat
Subspecies are Either
Listed or Petitioned for
Listing and Have
Litigation Pending***

***Due to listing decisions
and court reviews, all
inland cutthroat
conservation programs
are receiving increased
scrutiny***

***Policy for Evaluation of
Conservation Efforts
(PECE)***

Policy for Evaluation of Conservation Efforts PECE
Key Provisions

- “Ensure consistent and adequate evaluation of conservation efforts” ... linked to a listing decision (Requirement of ESA).
- Intended to apply to “formalized conservation” efforts.
- “May also guide the development of conservation efforts that sufficiently improve a species’ status so as to make listing ... unnecessary”.
- “Certainty” is critical element.

**“Certainty” is a critical
element in a PECE
evaluation.**

**“Certainty” that a conservation
effort will be implemented!**

**“Certainty” that a conservation
effort will be effective!**

Criteria for “Certainty” of Implementation

- Identify parties, staffing resources, and funding (levels and sources).
- Describe legal authority, approval and level of commitment (signatures).
- Identify legal requirements and necessary authorizations (regulatory mechanisms).
- Identify the level and type of voluntary participation.
- Provide an implementation Schedule (specific dates).

Criteria for "certainty" of Effectiveness

- Describe nature and extent of threats.
- State explicit objectives (quantified parameters) and dates of accomplishment.
- Identify steps necessary to achieve objectives (detailed outline).
- Identify provisions for monitoring and reporting.
- Incorporate principles of "adaptive management".

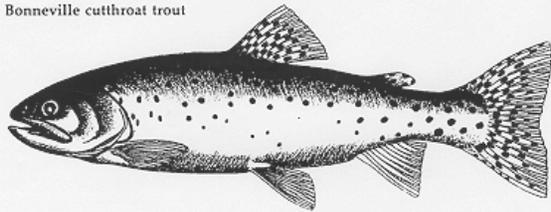
***“Even if you’re on the right track,
you’ll still get run over if you just
sit there!”***

Will Rogers

To Be Effective, Programs Must Be Judiciously Implemented, Evaluated and Revised

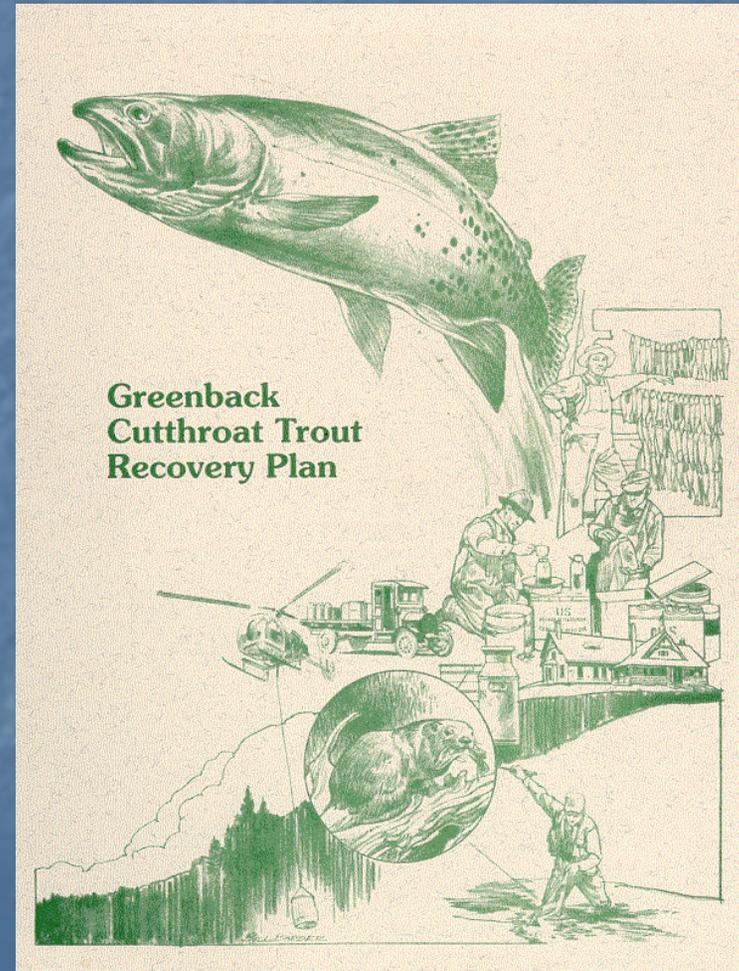
RANGE-WIDE
CONSERVATION AGREEMENT AND STRATEGY
FOR
BONNEVILLE CUTTHROAT TROUT
(*Oncorhynchus clarki utah*)

Bonneville cutthroat trout



Publication Number 99-

August 1999



Inland Cutthroat Trout Conservation Program Components

- **Administrative**
- **Organization**
- **Implementation**

Administrative Considerations

- Need Range-wide as well as local perspectives.
- Need clearly stated goal(s) and objective(s).
- Benefits of conservation/coordination Agreements at various levels.
- Necessity of plans and strategies that discuss reference conditions, identify current conditions, specify desired conditions and outcomes, provide for validation and address public outreach.
- Periodic plan updates and revisions.

***Organize for Improved
Efficiency and
Effectiveness***

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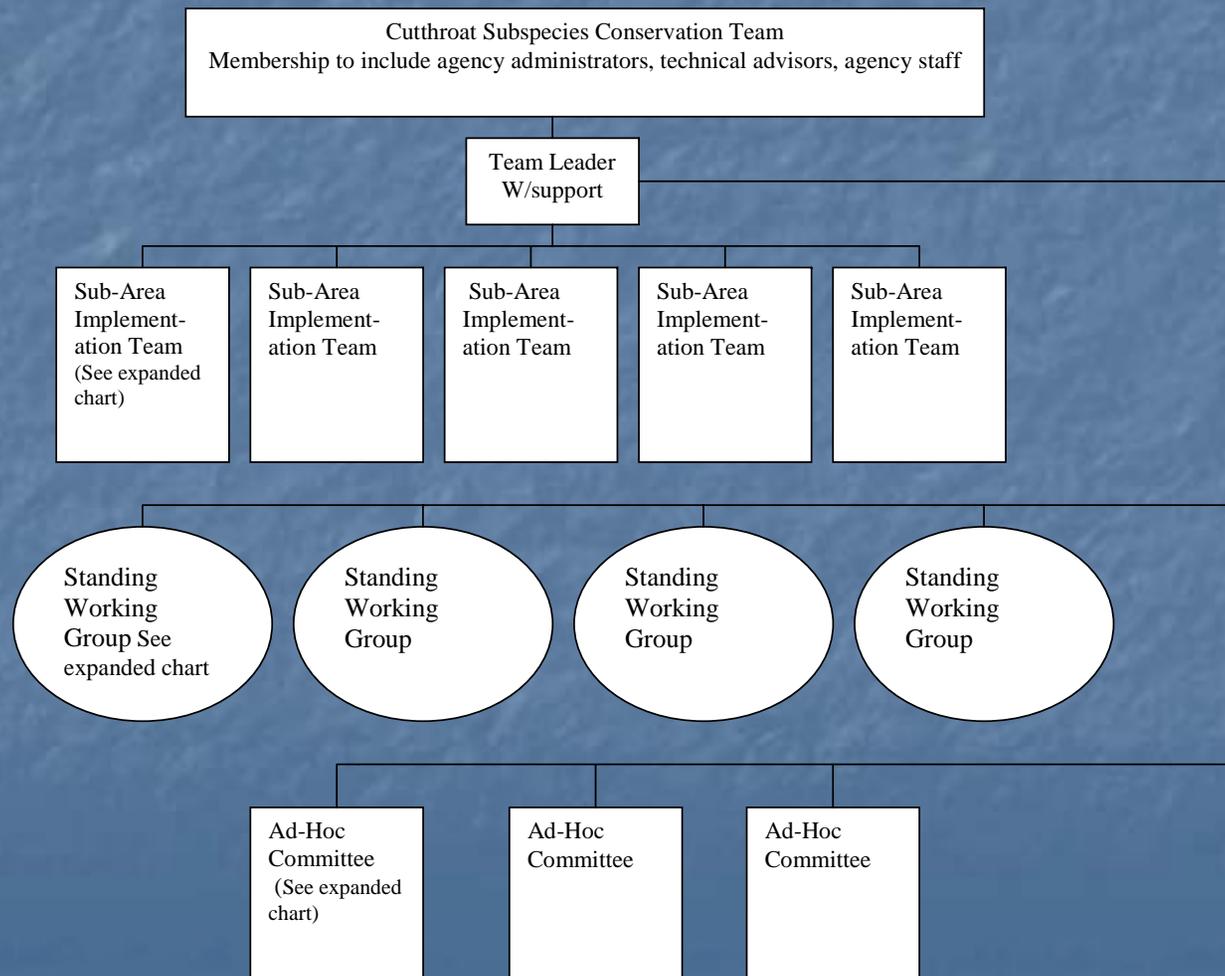
***Better Coordination,
Cooperation and
Communication***

*Formalized Teams, Working Groups
and Committees Can Be Helpful*



Individual Cutthroat Efforts Benefit From Structured Organization

Potential Organization Chart for Cutthroat Subspecies Range-Wide Conservation Effort



Implementation Considerations

- Provide Protection of Current Populations
- Enhance Current Populations Where Needed
- Restoration and/or Creation of Populations
- Information Outreach
- Program and Project Effectiveness Evaluations
- Program Financing

Potential Benefits

- More productive and efficient.
- Better and more efficient use of people.
- Improved communications w/ interest groups and general public.
- Greater opportunity to develop population needs assessment and specific conservation strategies.
- Improved sharing of expertise and finances.
- Greater degree of "certainty".

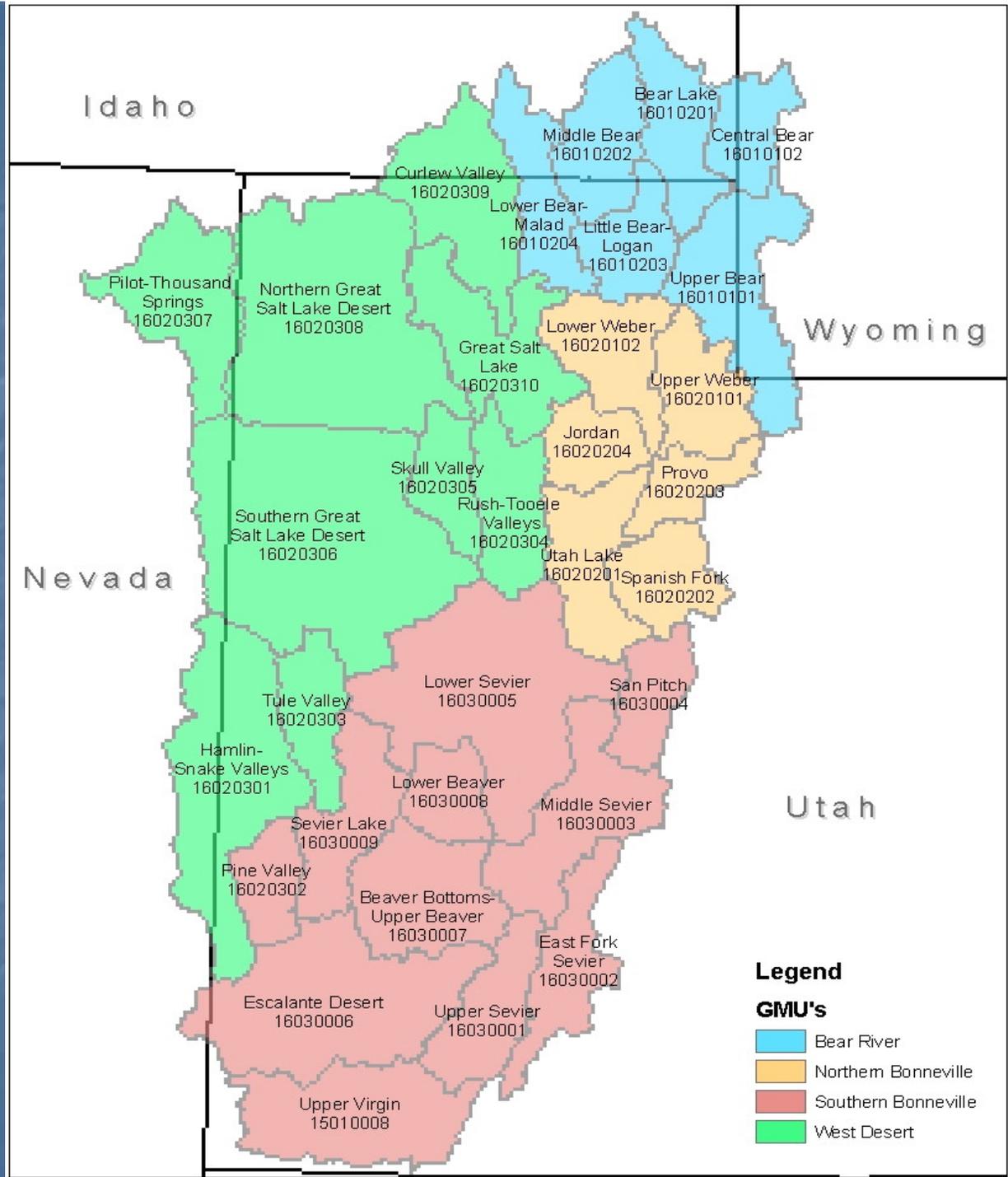
Inland Cutthroat Status Updates

Inland Cutthroat Status Updates Protocol, Process and People

- *Protocol similar for YCT, WCT, BCT and CRCT*
- *Uses GIS Capabilities – All information geo-referenced to NHD stream and lake layers.*
- *4 parts – Historic, Current, Conservation Population and Restoration/Expansion Potential.*
- *Information Generated at Workshops using Working Groups.*
- *Utilized Diverse Array of Fishery and GIS/Database Expertise.*

Bonneville Cutthroat Example

- 4 parts – Historic, Current, Conservation Population and Restoration/Expansion
- 31 HUC's assessed -- 23 HUC's in Historical Range – 23 HUC's Currently Occupied
- 3 Workshops w/ 3 to 5 assessment teams/workshop
- 31 Fishery professionals, 6 GIS Specialists representing 8 entities
- 530 total years fishery experience – 438 years w/ cutthroat trout
- 36,000 + GIS Records

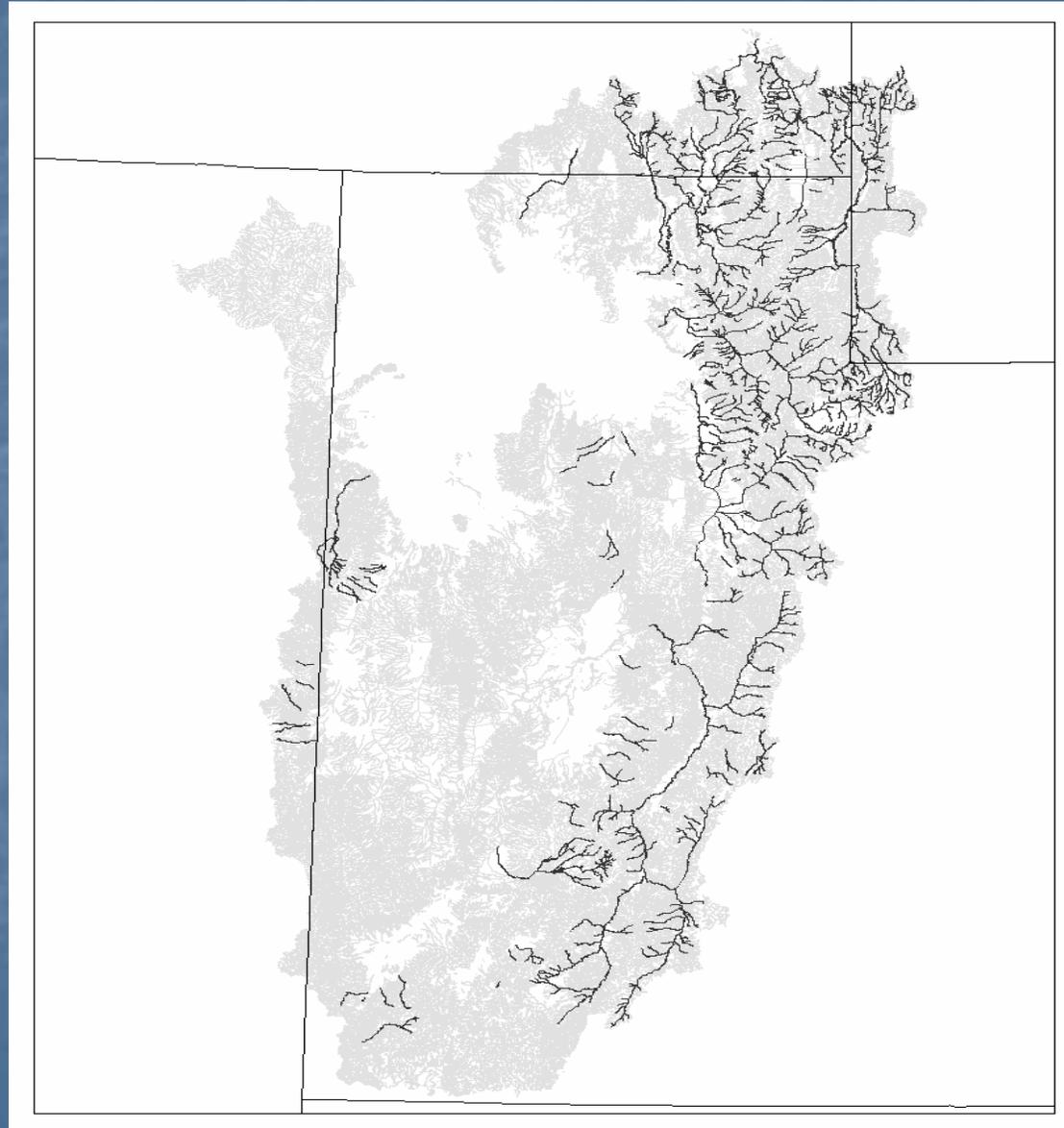


Legend

GMU's

- Bear River
- Northern Bonneville
- Southern Bonneville
- West Desert

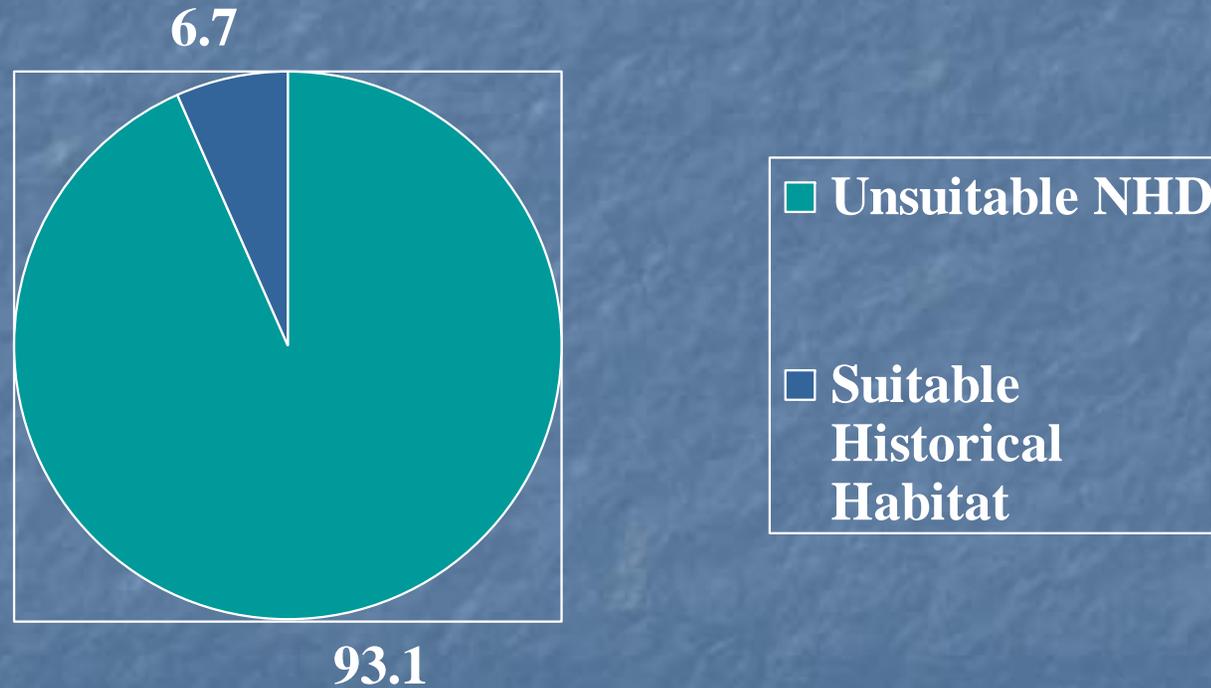
NHD Layer and Historical BCT Habitat



NHD Stream Layer Adjustment

- *All canals and ditches removed*
- *All stream segments above “historical barriers” removed*
- *All habitat judged as unsuitable to support BCT removed*
- *All habitat judged to be unoccupied by BCT in 1800 removed*
- *All mislabeled canals and ditches removed*

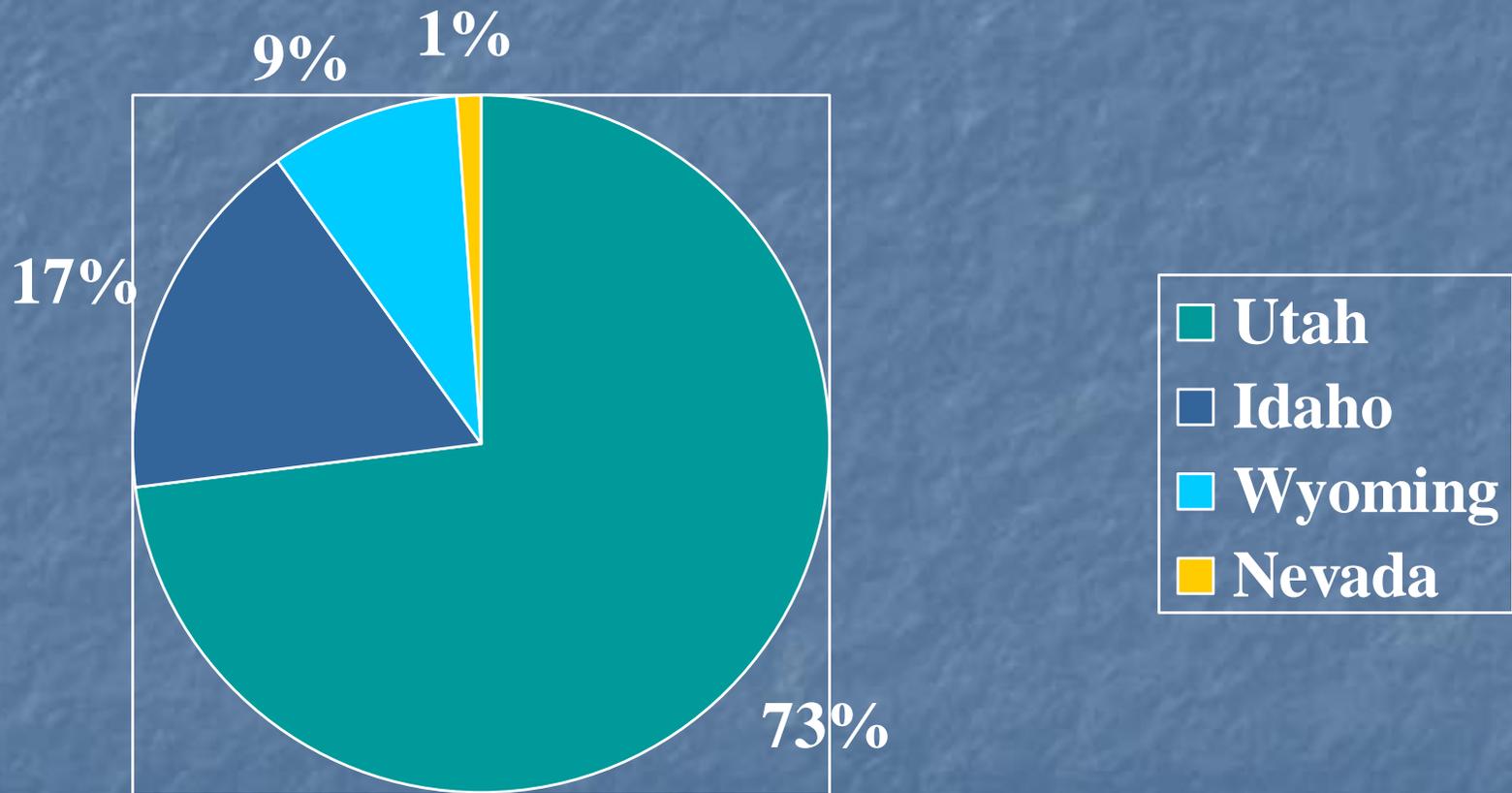
Final Adjusted NHD Stream Layer



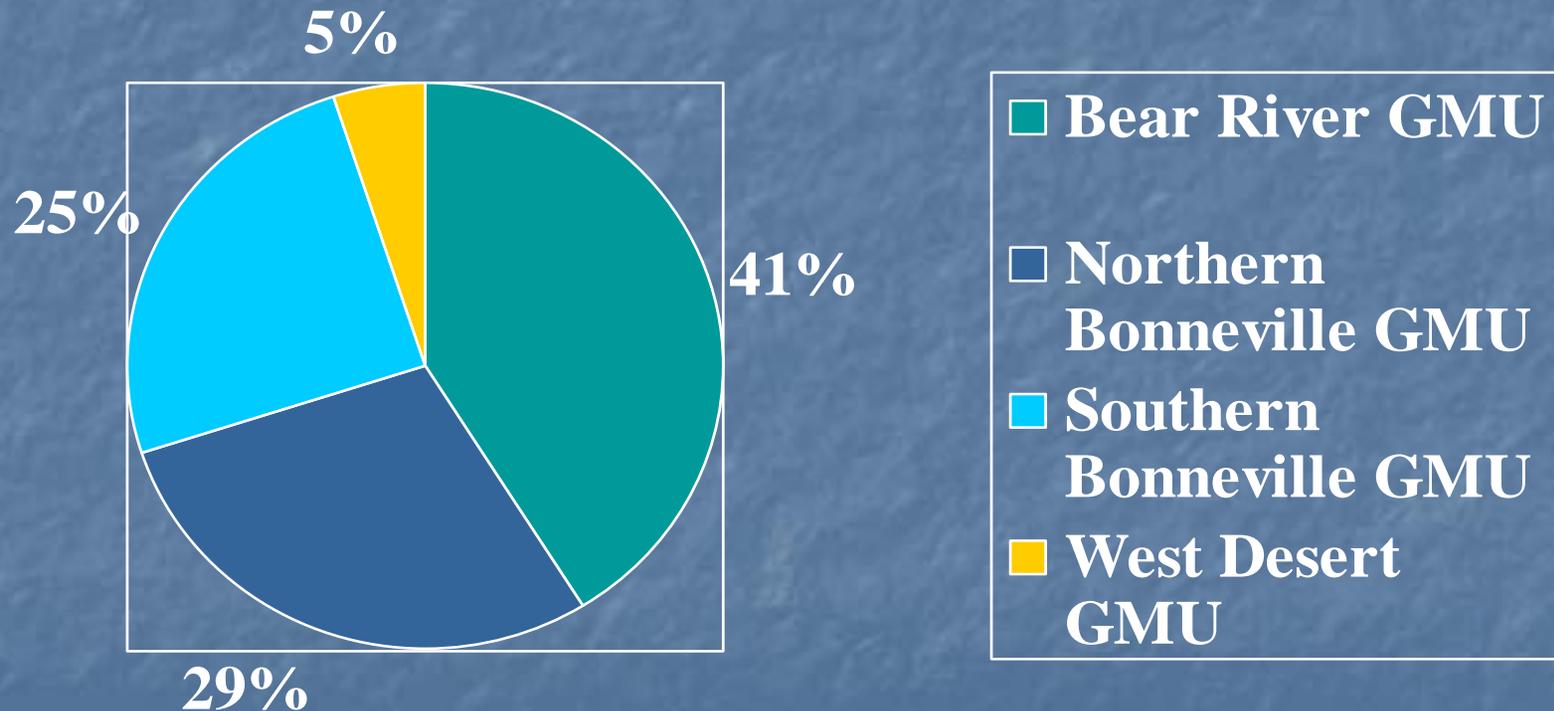
Historical Information

- Base stream miles in NHD stream layer
98,353 miles
- 6,758 miles judged as being historically occupied (6.9 % of total NHD stream miles)
- Utah – 4,419 (73%) Idaho – 1,152 (17%) Wyoming – 605 (9%) Nevada – 82 (1%)
- Bear River GMU – 2,758 (41%)
Northern Bonneville GMU – 1,927 (29%)
Southern Bonneville GMU – 1,685 (25%)
West Desert – 388 (5%)

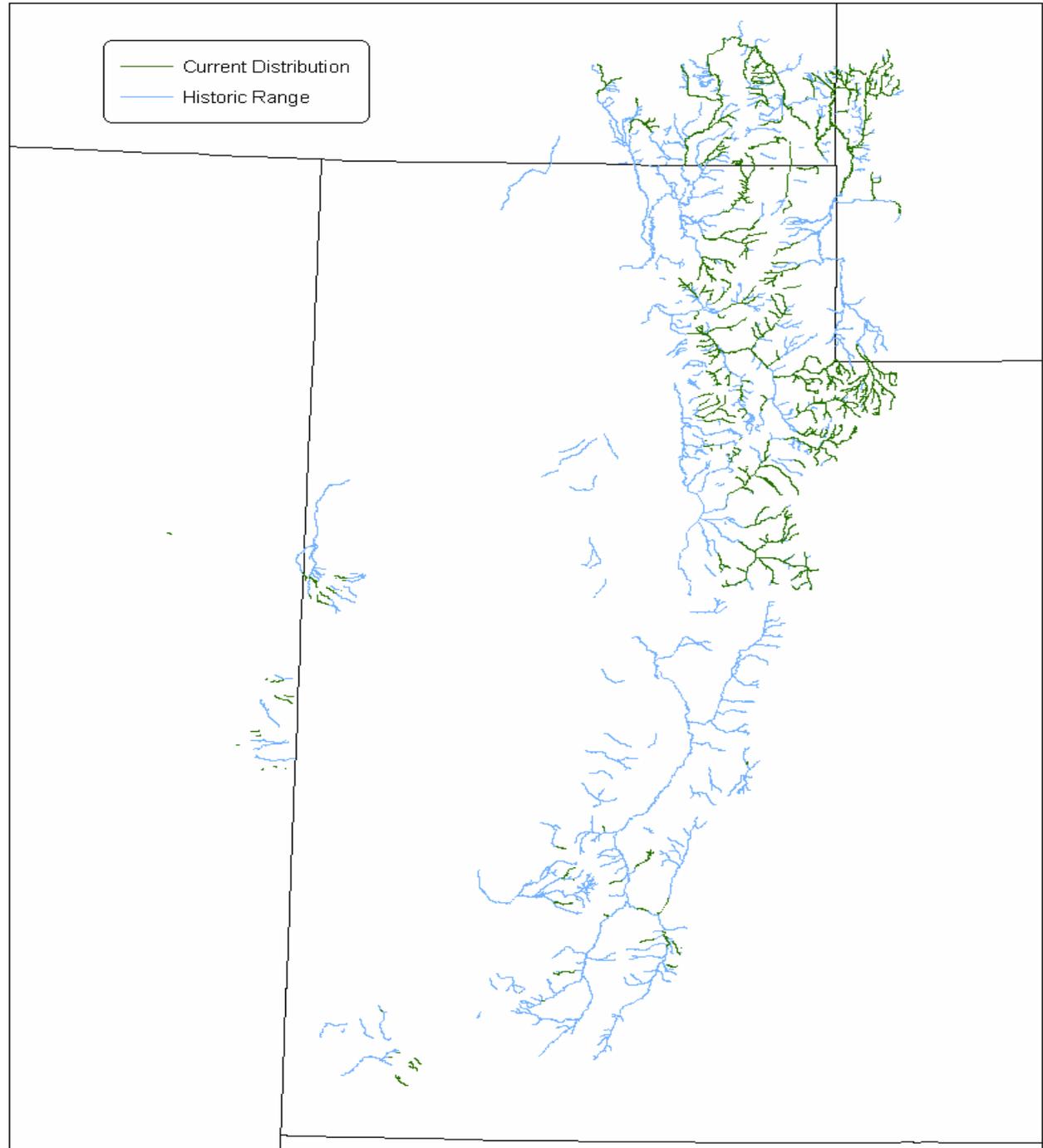
Historical BCT Miles (%) Habitat by State



Historical BCT Miles (%) by GMU



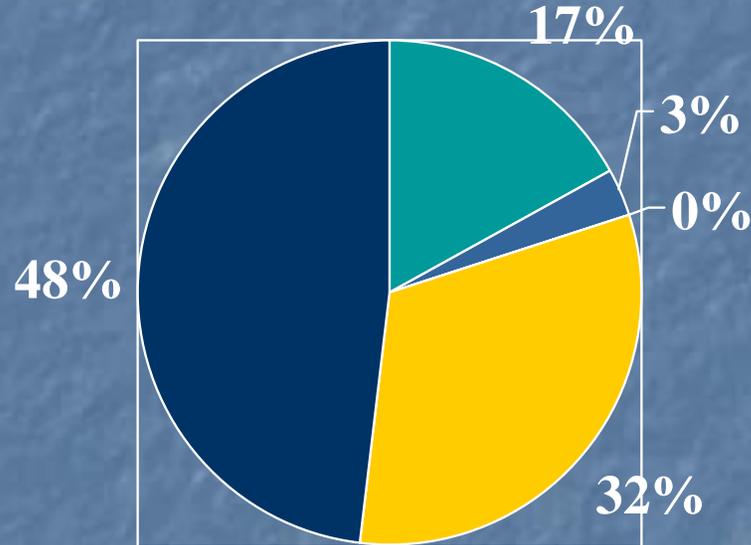
*Currently
Occupied
BCT
Habitat*



Current Situation

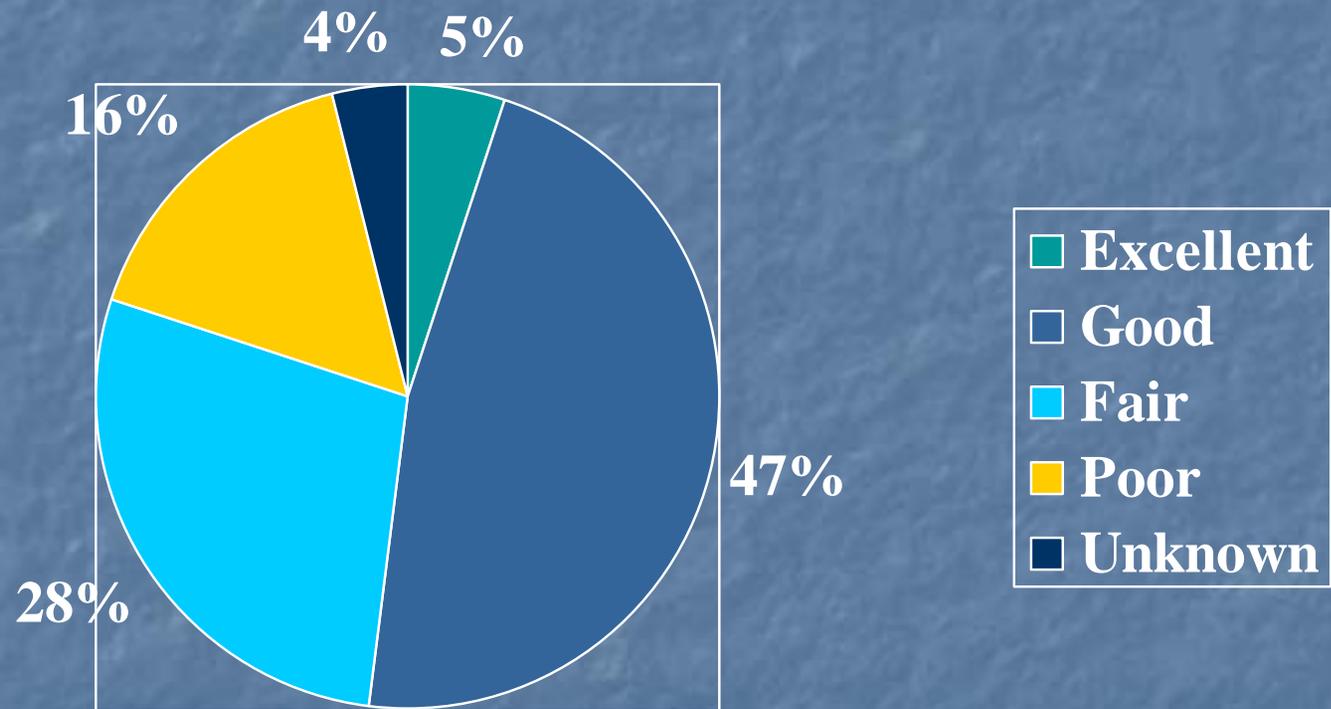
- *2,380 stream miles currently occupied by BCT*
- *35% of historically occupied habitat*
- *22 of 23 historical HUC's w/ some BCT occupancy*
- *All 4 GMU's have BCT occupancy*
- *Utah-1,515 miles Idaho-540 miles Wyoming-296 miles Nevada-29 miles*

Current Genetic Status

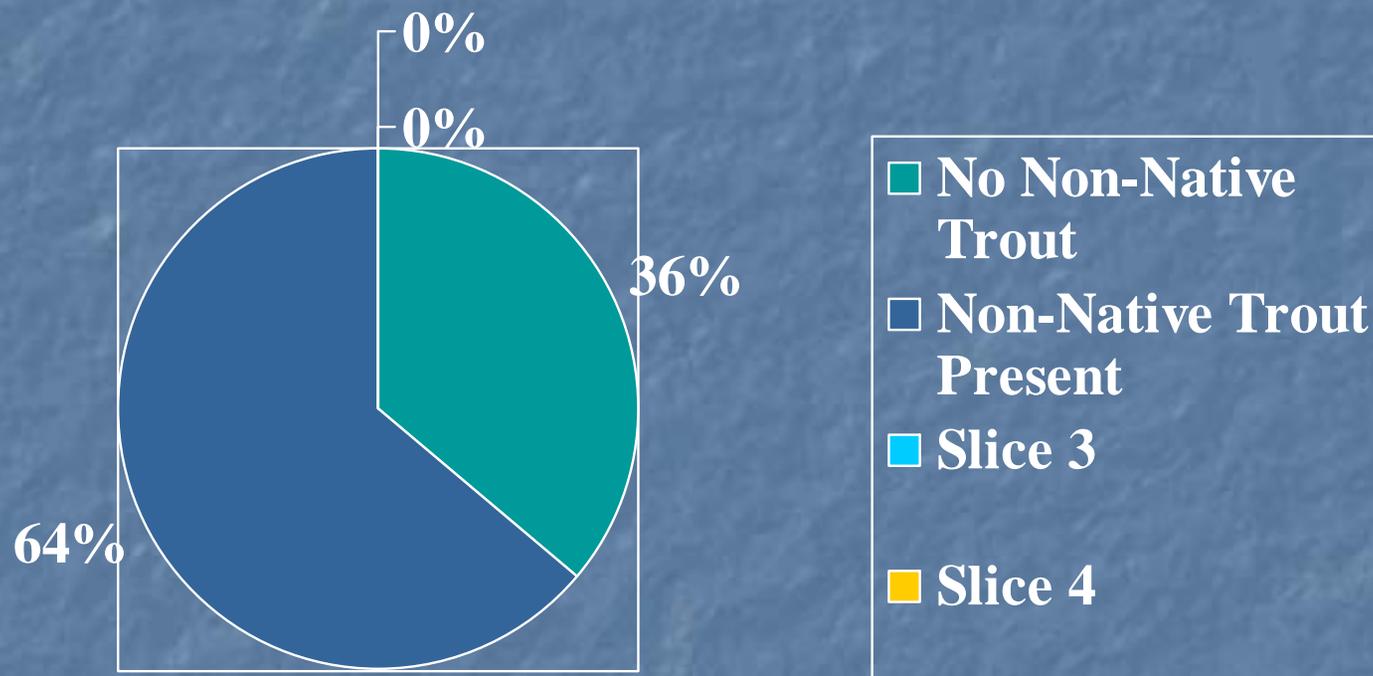


- Tested-Unaltered
- Tested-90-99%
- Tested-80-89%
- Not Tested-Suspected Unaltered
- Not Tested-Potentially Altered

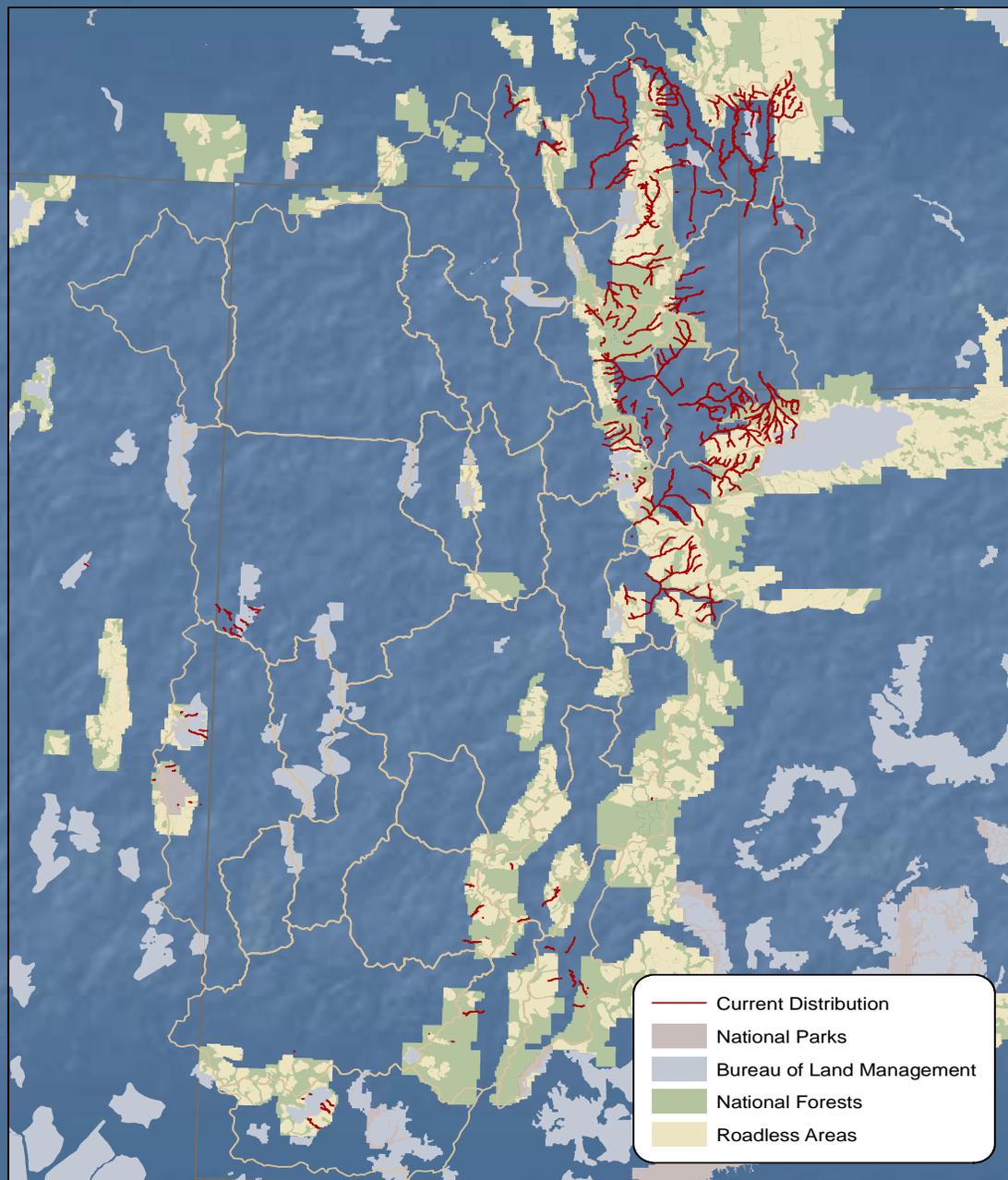
BCT Habitat Quality Ratings



Presence of Non-native Trout Sympatric w/ BCT



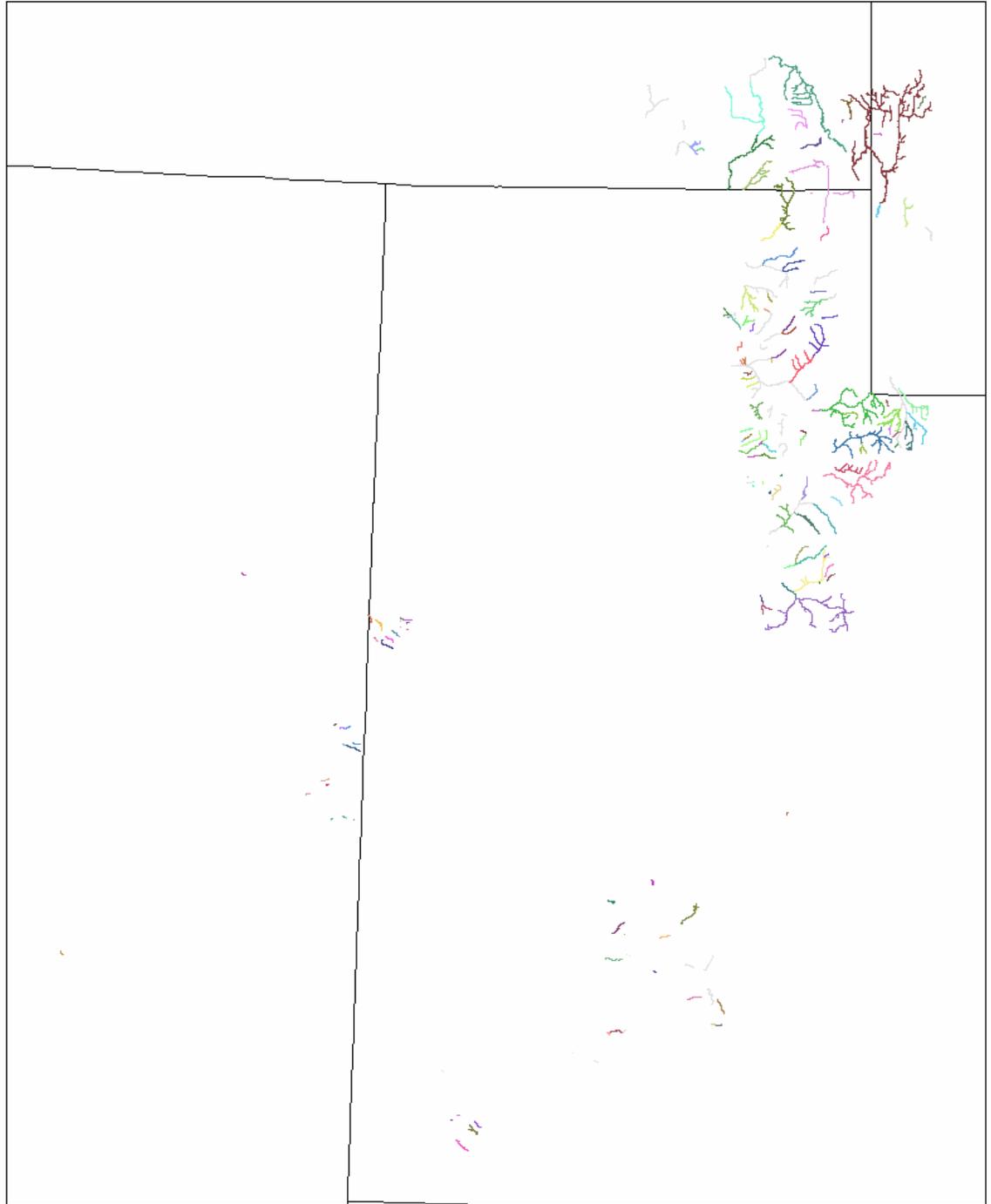
Current Distribution w/ Land Administration Boundaries



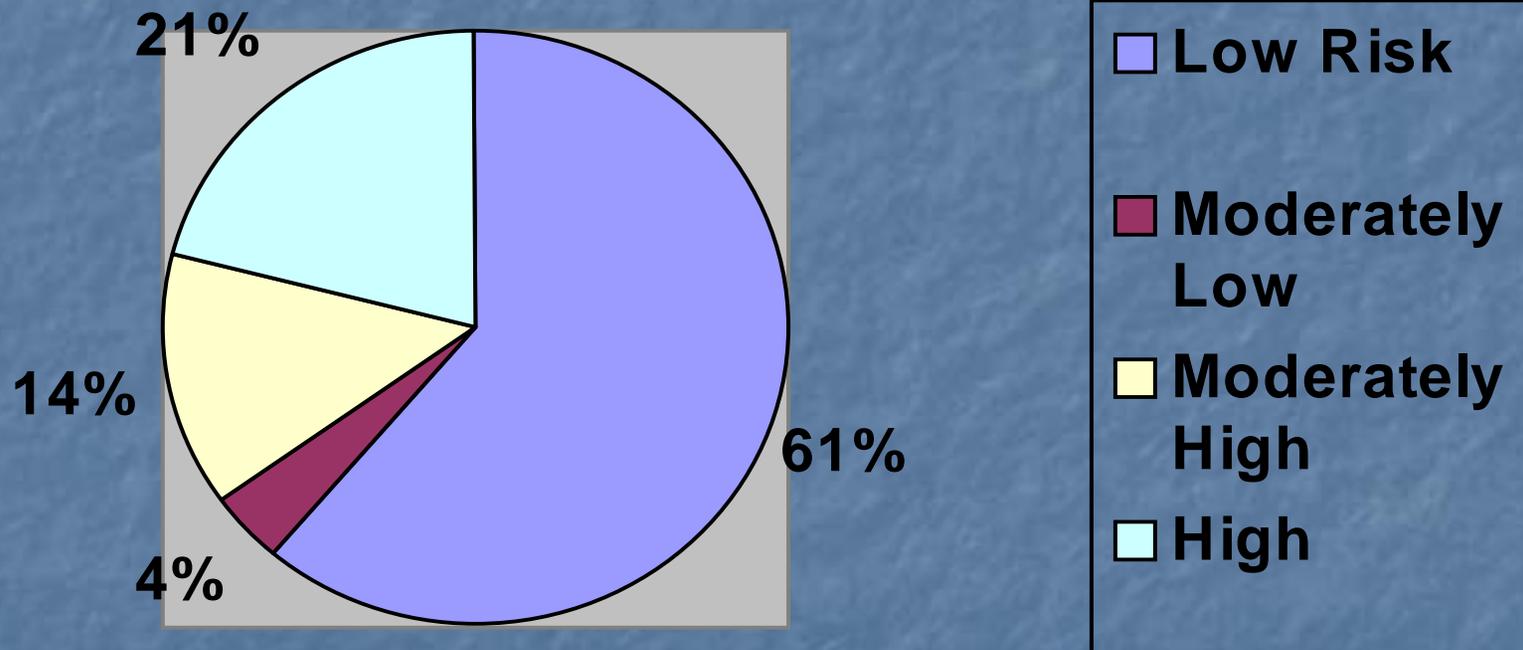
BCT Conservation Population Statistics

- *153 Populations Identified*
- *2,016 miles (87% of current – 30% of historical)*
- *Occupy Habitat in 23 HUC's – 21 in Historical HUC's – 2 in Other HUC's*
- *73 Identified as Core Conservation Populations*
- *75 Identified as Occupying Significant Habitat*
- *5 Identified as having Unique Life Histories*

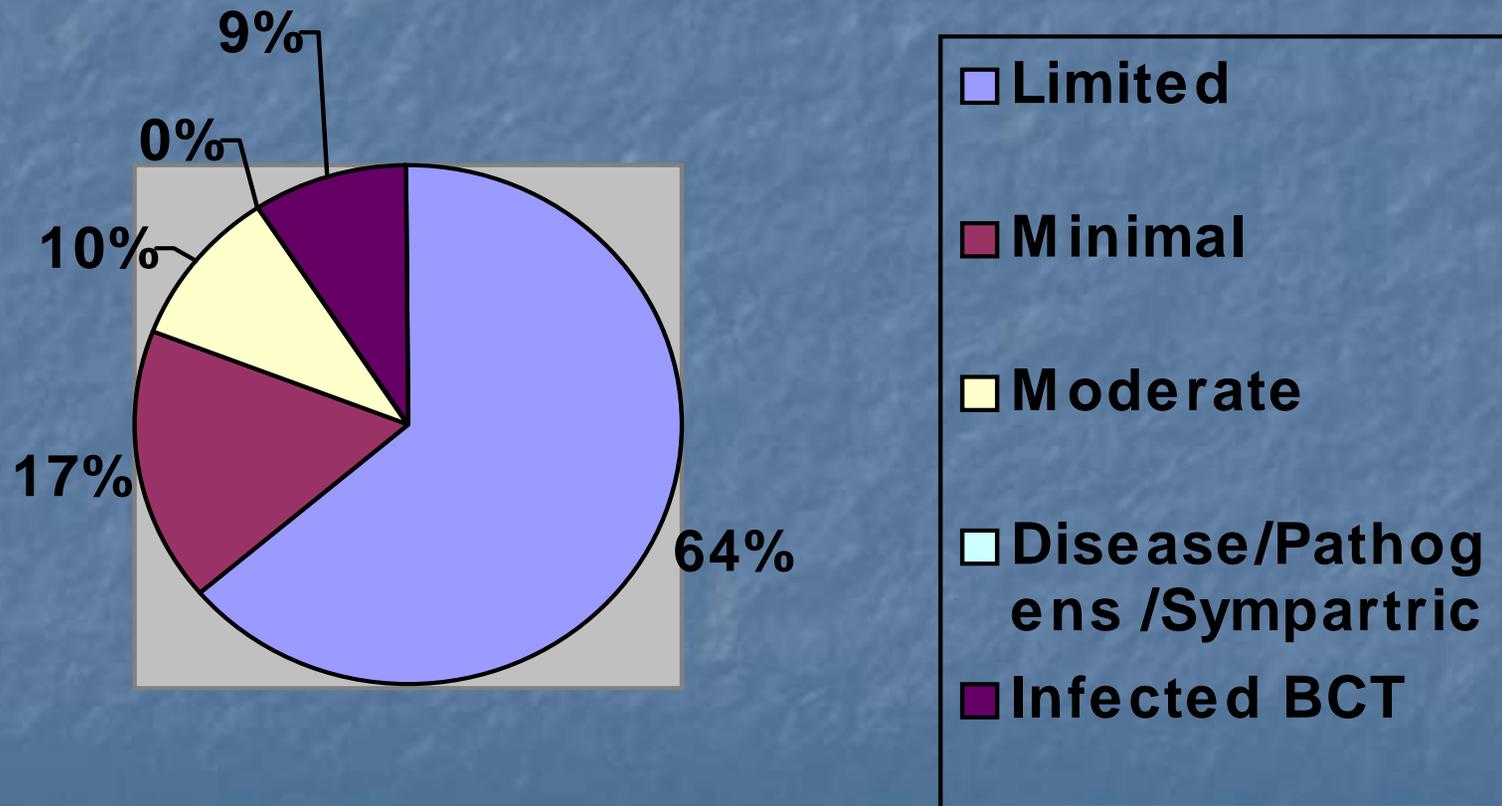
***BCT
Conservation
Populations***



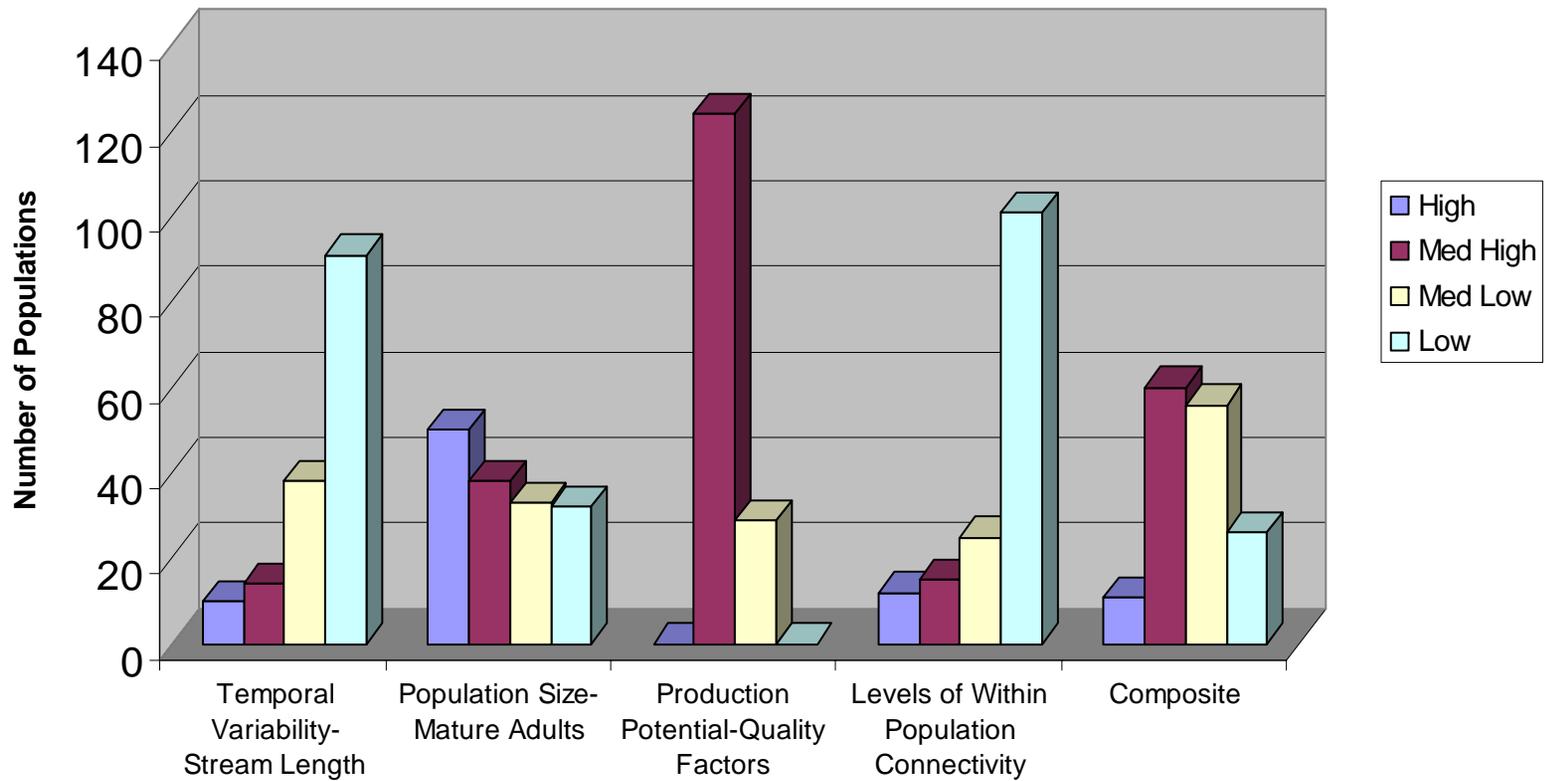
Risks Associated with Genetic Contamination



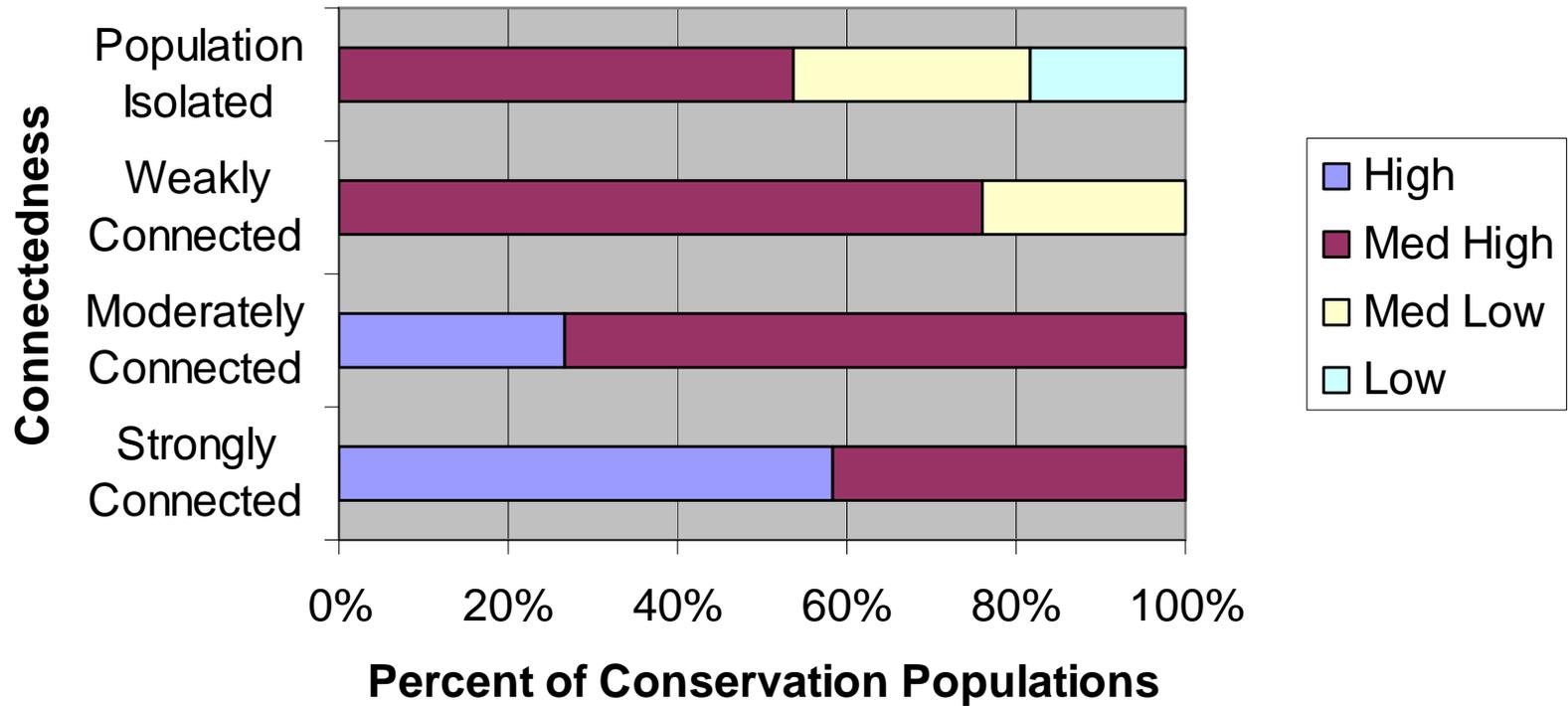
Risks Associated with Catastrophic Disease



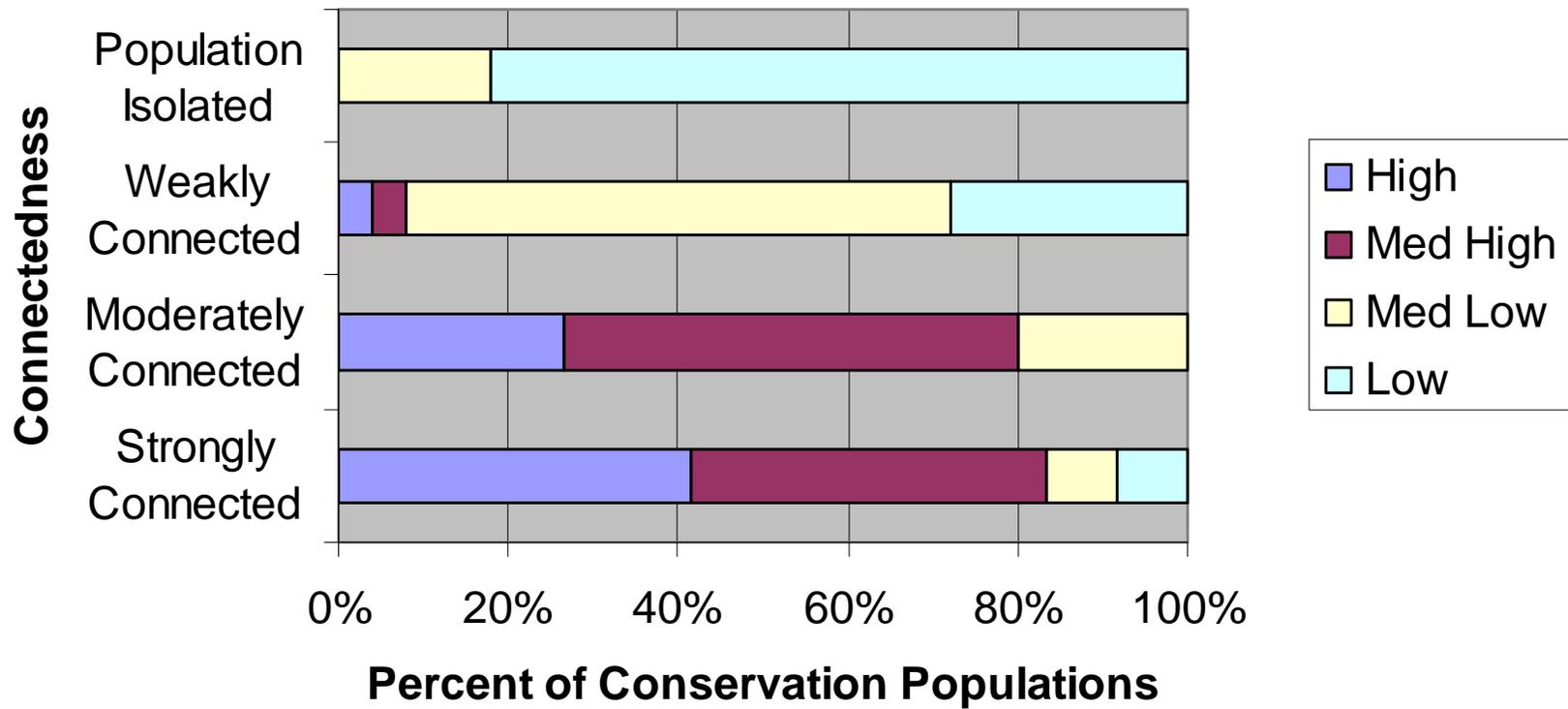
Ranked Health Scores by Number of Populations



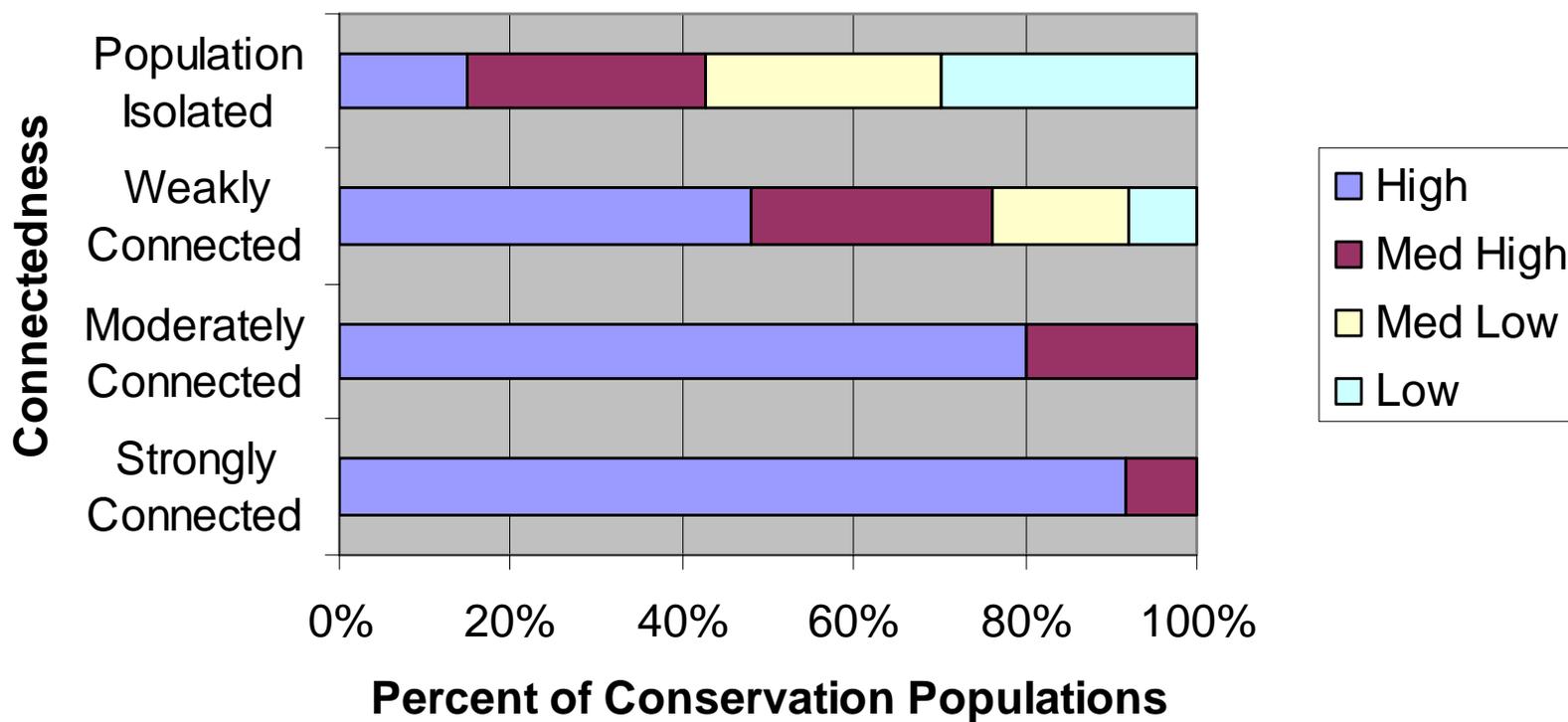
Conservation Population Health Rating - Combined Health Assessment



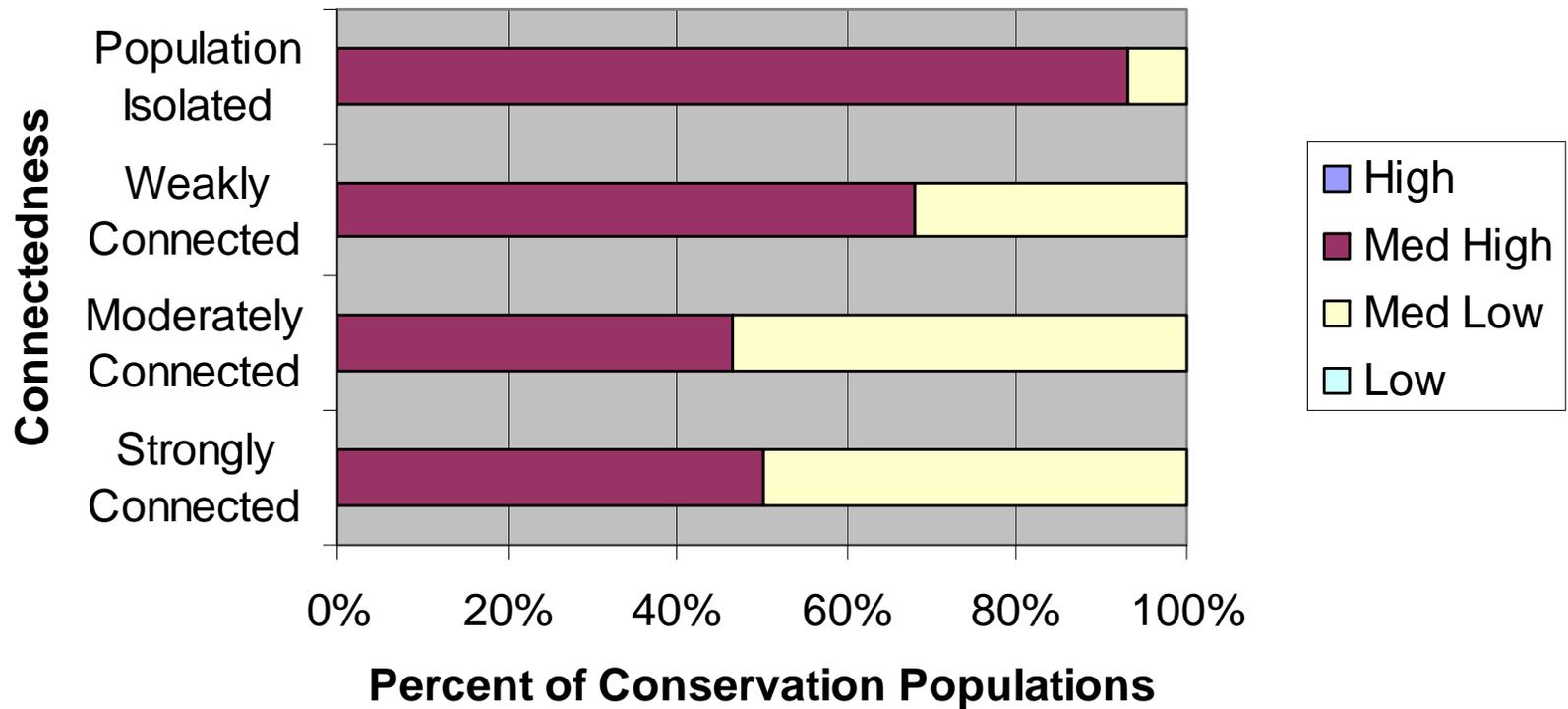
Conservation Population Health Rating - Temporal Variability



Conservation Population Health Rating - Population Size



Conservation Population Health Rating - Demographics (Growth and Survival)



“We Can’t Go Back and Create a New Beginning but We Can Start Now to Create a New Ending”

