Inland Cutthroat Trout Management and Conservation Planning

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
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 with 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
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

Cutthroat Subspecies Conservation Team
Membership to include agency administrators, technical advisors, agency staff

Team Leader
W/support

Sub-Area Implementation Team
(See expanded chart)

Sub-Area Implementation Team

Sub-Area Implementation Team

Sub-Area Implementation Team

Standing Working Group
See expanded chart

Standing Working Group

Standing Working Group

Standing Working Group

Ad-Hoc Committee
(See expanded chart)

Ad-Hoc Committee

Ad-Hoc Committee
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.
- 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
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
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

- Utah: 73%
- Idaho: 17%
- Wyoming: 9%
- Nevada: 1%

Legend:
- Utah
- Idaho
- Wyoming
- Nevada
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
BCT Habitat Quality Ratings

- Excellent: 47%
- Good: 28%
- Fair: 16%
- Poor: 4%
- Unknown: 5%
**Presence of Non-native Trout Sympatric w/ BCT**

- **0%** No Non-Native Trout Present
- **36%** Non-Native Trout Present
- **64%** Slice 3
- **0%** Slice 4
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

- Low Risk: 61%
- Moderately Low: 21%
- Moderately High: 14%
- High: 4%
Risks Associated with Catastrophic Disease

- Limited: 64%
- Minimal: 17%
- Moderate: 10%
- Disease/Pathogens/Symparthric: 9%
- Infected BCT: 0%
Ranked Health Scores by Number of Populations

- Number of Populations
- Temporal Variability - Stream Length
- Population Size - Mature Adults
- Production Potential - Quality Factors
- Levels of Within Population Connectivity
- Composite

- High
- Med High
- Med Low
- Low
Conservation Population Health Rating - Population Size

- Population Isolated
- Weakly Connected
- Moderately Connected
- Strongly Connected

Percent of Conservation Populations

- High
- Med High
- Med Low
- Low
Conservation Population Health Rating - Demographics (Growth and Survival)

- Population Isolated
- Weakly Connected
- Moderately Connected
- Strongly Connected

Percent of Conservation Populations

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