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Nonnative Fish Control Plan: Summary of Primary Revisions from TWG Review

Prepared for Glen Canyon Dam Adaptive Management Program
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By

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Overview

NNF Plan Reviews

- Internal and external
- Science Advisors
- TWG

Input from reviewers enhanced document

- Reviewer efforts appreciated
- Addressed majority of comments
- Added Recommendations for Implementation
  - Provides tangibility of direction in nonnative control planning

Nonnative Control Plan not static

- Annual input from monitoring, research and control recommendations

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Presentation Goals

- Describe primary TWG review comments
- Identify revision in document
  - Page number referenced
- Identify significant factual errors or omissions for revision
- Submit for TWG finalization

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Need for Risk Assess.\ Proj. Priority

- Refinement and completion of risk assessment is priority once plan is finalized
- Strategic Approach Identified
  - Section added: See Strategic Issues (pg 36)
- Valdez and Speas (2009); Valdez (2008)
  - Assessed benefits of TCD to fish spawning, incubation and growth in GC
  - Extensive review of temperature requirements
  - Will be included in bioenergetics modeling

Section added: See Research Recom., Risk Assessment (pg 45)

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Need for Risk Assess.\ Proj. Priority

- **Progress in Ecopath/Ecosim modeling**
  - Use to simulate invasion of nonnative fish and impacts to juvenile humpback chub
  - Forcing function to simulate various temp scenarios
  - Integrating with foodbase
  - Identify information needs
  - March 2010 Workshop – outcome presented to TWG in April

  Section added: See Implementation Section (pg 64)

- **Nonnative Control Ad Hoc (2003) threats:**

1. Brown trout
2. Rainbow trout
3. Channel catfish
4. Common carp
5. Red shiner
6. Yellow bullhead
7. Fathead minnow
8. Black bullhead
9. Green sunfish
10. Largemouth bass

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Need for Risk Assess.\ Proj. Priority

- Repeat threats survey from Nonnative Control Ad Hoc (2003)
  - Identify species of greatest risk
  - Best professional judgment in the absence of definitive data

- Nonnative Fish project prioritization process
  - Address nonnative fish issues of greatest concern
  - Upper Basin developed successful prioritization protocol

Sections added: See new Implementation Section (pg 64)

And Appx. C – Prioritization Recom. Memo (pg 103)

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Define Agency Roles\ Need for Multi-Agency Implementation Doc.

- Not appropriate for GCMRC to assign tasks or responsibility to Mgmt. Agencies

- See new Implementation Section (pg 64)
  - Develop multi-agency Rapid Response Plan (AMP)
  - Develop Desired Future Conditions (AMP)
  - Project Prioritization Process/ Repeat Risk Survey (GCMRC)

- GCMRC recommends Response Plan approach for AMP Implementation

  Section added: See Rapid Response Plan (pg 70) and Appx. D Rapid Response Plan Example

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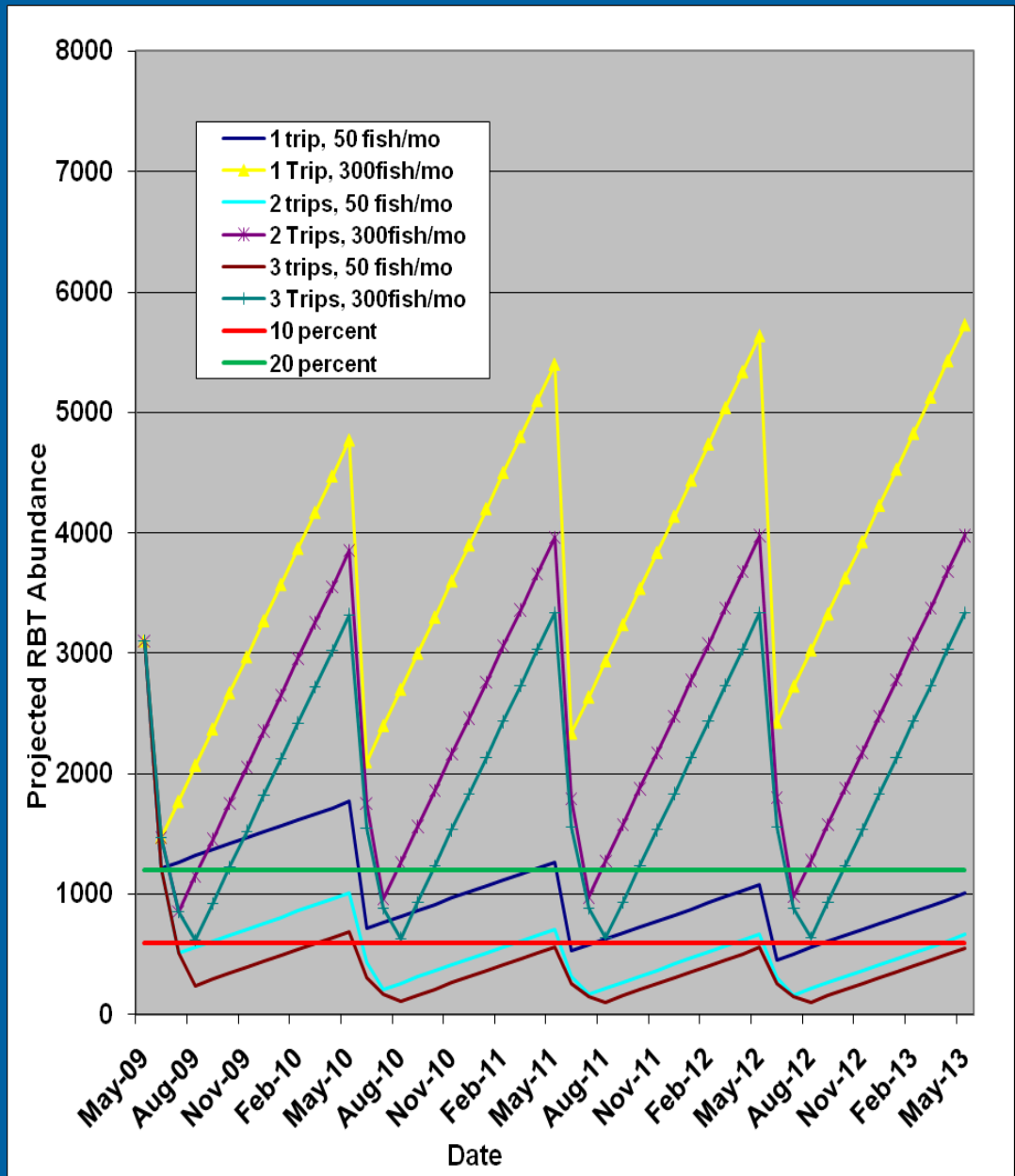
Mechanical Removal Triggers Questioned

Text added: See Mech Removal Recom. (pg 35)

- Lit support for removal of ↑ %
- Projected # of trips to maintain RBT abundance in LCR reach at 10-20 % Jan. 2003 level (Coggins model)
- 600 to 1,200 fish in LCR reach
- Low Immigration (50 fish/mo)
  - 1-2 trips per year
- High Imm. (300 fish/mo)
  - 2-3 trips per year
- Future Imm. rate unknown
  - 2008 RBT cohort in Lees Ferry



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Mechanical Removal

- Discussion of certainties and uncertainties
- Discuss exploring feasibility of removal upstream

  See Mechanical Removal Recom. (pg 39-42)

- Text indicates complexity of implementing nonnative fish management
  - Tribal concerns/consultation
  - Environmental compliance

    See Regulatory Authority (pg 37)

    Implementation Strategies (pg 66)

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Clarify Triggers and Response

- Scientist and Manager input
  - NNF Workshop (pg 55); examples added
  - Response Triggers (pg 59); text added
  - Responding to NNF Threats (pg 61); text added
    - Most likely scenarios presented
    - Require management agency response

- Nonnative fish monitoring needs

  See Review of Fish Proj (pg 15); text added

  and Monitoring Recom. (pg 37); text added

- Adaptive Management Approach
  - Annual evaluation

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NNF Plan should be a review of Upper Basin efforts

- Plan not intended to be review
- Active interaction with UB Recovery Prog.
  - UB NNF Workshops
  - Researchers Meetings
  - Prioritization Process
  - UB participation in GC NNF Workshops
- UB thinks most important part of GC Plan is

PREVENTION

See Prevention and Public Outreach (pg 57); text added

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Need all response scenarios developed

- Large # of possible methods/scenarios
- Invading species, #s and sources unknown
- Limited removal methods available for GC
  - Use tools and personnel available
- Opted to use NNF Workshop for 'real time' response plan development
  - Identify NNF issue requiring response
  - Develop Control Response
- Scenarios presented

See Responding to Perceived Threats (pg 61); text added

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Conclusions

- Plan is product of multiple reviews
- Requires adaptive management approach
- Implementation plan needed

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