Glen Canyon Dam Adaptive Management Work Group
Agenda Item Information
February 24-25, 2016

Agenda Item
Humpback Chub Recovery Team Update

Action Requested
Information item only; we will answer questions but no action is requested.

Presenters
Rich Valdez, Senior Scientist, SWCA, Humpback Chub Recovery Team Leader
Tom Czapla, U.S. Fish and Wildlife Service, Agency Lead (by telephone)
Tom Chart, U.S. Fish and Wildlife Service, Upper Basin Recovery Program Director, (by telephone)

Previous Action Taken
N/A

Relevant Science
See http://www.coloradoriverrecovery.org/documents-publications/documents-publications.html; http://www.gcmrc.gov/publications/library.aspx for relevant research and monitoring information.

Summary of Presentation and Background Information
The Humpback Chub is an endangered fish species that occurs as five populations in the Upper Colorado River Basin and one population in the Grand Canyon of the lower basin. Three recovery and conservation programs operate in areas occupied by the species, including the Upper Colorado River Endangered Fish Recovery Program, Glen Canyon Dam Adaptive Management Program, and Lower Colorado River Multi-Species Conservation Program. Each of these programs consists of stakeholders that may be affected by recovery activities for the Humpback Chub. (See http://www.coloradoriverrecovery.org, http://www.gcdamp.gov/, and http://www.lcrmscp.gov/ for more information.)

In an effort to identify activities necessary for species conservation, a new Humpback Chub Recovery Team was appointed by U.S. Fish and Wildlife Service (USFWS) Regional Director Noreen Walsh in November 2015. The Team consists of a Team Leader (Rich Valdez), Agency Lead (Tom Czapla), Science Subgroup, Implementation Subgroup, and Writing Subgroup, for a total of 22 Team members. The Team includes stakeholder representatives on the Implementation Subgroup as an addition to previous traditional Recovery Teams. The Team is expected to meet five times from November 2015 to December 2016, and a comprehensive Recovery Plan is expected to be delivered to the Regional Director for signature by July 2017.

The Recovery Team is delegated the responsibility of producing three reports: (1) Species Status Assessment, (2) Recovery Plan, and (3) Implementation Plan.

A Species Status Assessment (SSA) describes the species needs, current condition, and future condition and viability. It is a document that provides a single source for species' biological information used by the USFWS for making Endangered Species Act-related decisions, including listings, consultations, permitting, Habitat Conservation Plans, and recovery planning. A SSA might lead to a Species Status Review in which the USFWS might determine that reclassification is warranted. A SSA for the Humpback Chub is expected to be drafted by May 2016.

A Recovery Plan will be drafted as the Second Revision of the Humpback Chub Recovery Plan, originally signed in 1979 and revised in 1990. The Plan will contain site-specific management actions and objective measurable criteria for recovery. The Plan will describe Strategy, Goals, Objectives, and Criteria for each Recovery Unit, and is expected to be drafted by August 2016. The Recovery Units are the upper basin, including the Green River and upper Colorado River subbasins; and the lower basin, including the mainstem and its tributaries from Glen Canyon Dam downstream to Lake Mead National Recreation Area.

The Implementation Plan will describe how each management action from the Recovery Plan will be implemented, and is expected to be drafted by October 2016. Each action will be numbered and prioritized in a step-down outline that will specify total duration of the action, responsible parties, and estimates of time and cost.

This recovery planning process is significant to stakeholders throughout the Colorado River System because it spells out the actions, criteria, time, and costs necessary to recover the Humpback Chub. As the first document in the process, the Species Status Assessment will enable the U.S. Fish and Wildlife Service to evaluate the current and future condition of the species and determine if downlisting and delisting are possible. The Recovery Plan and Implementation Plan will describe the actions necessary for recovery and the associated time and costs.

Recovery of Humpback Chub

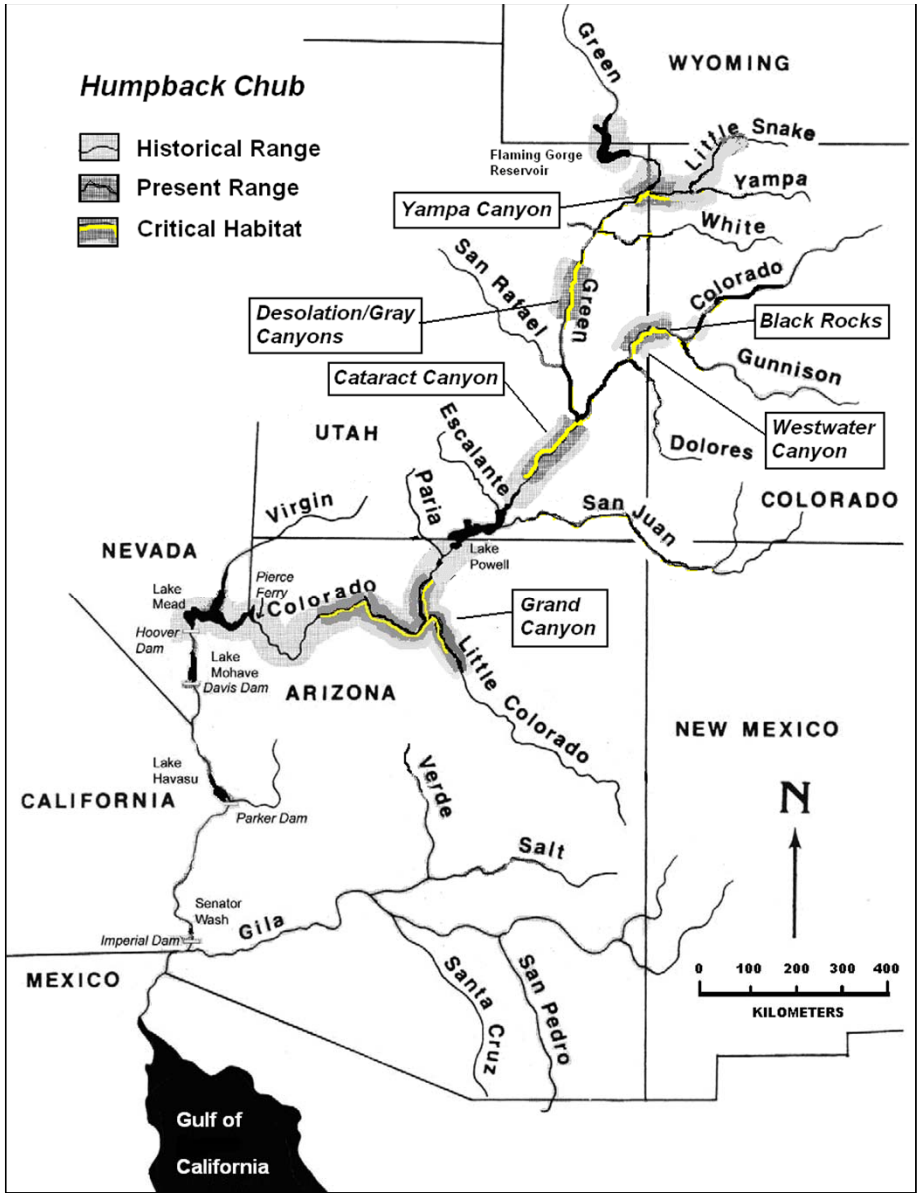
Illustrated by Joseph Tomelleri

Richard A. Valdez
Thomas E. Czapla
Thomas E. Chart

Glen Canyon Dam
Adaptive Management Program
February 24, 2016
Tempe, AZ

Species Status

- **Present range**: about 640 km of Colorado River System or 71% of about 900 km of historic range.
- **Critical habitat**: 610 km on March 21, 1994 (59 FR 13374).
- **Populations**: Found in separate and distinct canyon-confined reaches of the Colorado River Basin:
  1. Colorado and Little Colorado rivers in Grand Canyon, AZ;
  2. Black Rocks, CO;
  3. Westwater Canyon, UT;
  4. Desolation/Gray canyons, UT;
  5. Cataract Canyon, UT;
  6. Yampa and Green rivers in Dinosaur National Monument, CO and UT.



Humpback Chub Recovery Team

Team and Agency Leads:

- Richard Valdez, Ph.D., Team Leader (SWCA)
- Thomas Czapla, Ph.D., USFWS Agency Lead (Upper Colorado River Recovery Program)

Science Advisory Subgroup:

- Melissa Trammell (U.S. National Park Service)
- Katherine Creighton (Utah Division of Wildlife Resources)
- Shane Capron (Western Area Power Administration)
- Kirk Young/Randy Van Haverbeke (U.S. Fish and Wildlife Service, Region 2)
- Scott Vanderkooi (USGS, Grand Canyon Monitoring and Research Center)
- Bill Stewart (Arizona Game and Fish Department)

U.S. Fish and Wildlife Service Advisors:

- Seth Willey (Region 6)
- Sarah Rinkevich (Region 2)

Implementation Subgroup:

- Tom Pitts (Water Consult)
- Henry Maddux (Utah Department of Natural Resources)
- Leslie James (Colorado River Energy Distributors Association)
- Lynn Jeka (Western Area Power Administration)
- Brent Uilenberg (U.S. Bureau of Reclamation)
- Ted Kowalski (Colorado Water Conservation Board)
- Robert Wigington (The Nature Conservancy)
- Don Ostler (Upper Colorado River Commission)
- Julie Carter (Arizona Game and Fish Department)
- To be announced (Councilman, Pueblo of Zuni)
- Kim Yazzie (Navajo Nation Department of Fish and Wildlife)

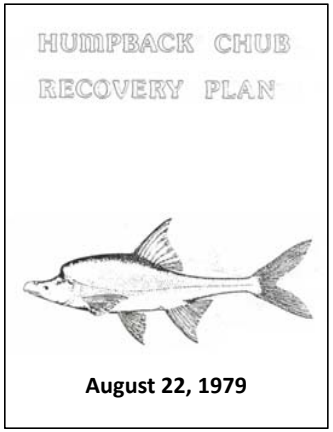
Writing Team:

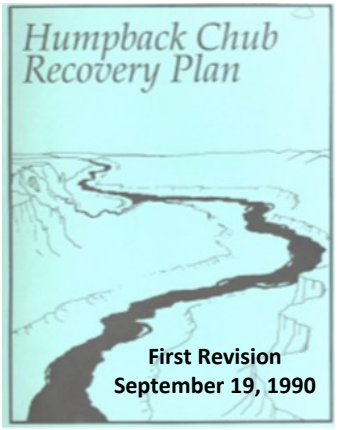
- Tom Chart (Upper Colorado River Recovery Program)
- Robert Muth, Ph.D. (U.S. Fish and Wildlife Service)
- Kevin McAbee (Upper Colorado River Recovery Program)

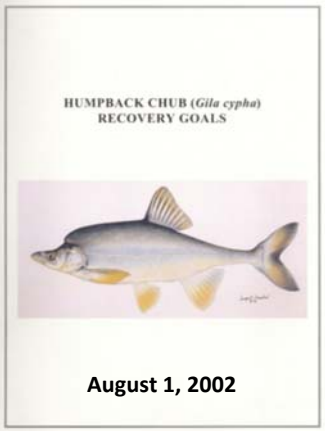
- *Appointed by USFWS Region 6 Director, Noreen Walsh, November 2015*

Humpback Chub Recovery Plans

- First Recovery Plan approved August 22, 1979 (USFWS 1979).
- First revision September 19, 1990 (USFWS 1990).
- Recovery goals approved August 1, 2002 (USFWS 2002a), but withdrawn and declared of no force and effect by court order on January 18, 2006 (*Grand Canyon Trust et al., vs. Gale Norton et al., U.S. District Court for the District of Arizona, Order No. 04-CV-636-PHX-FJM*).
- Second revision underway.





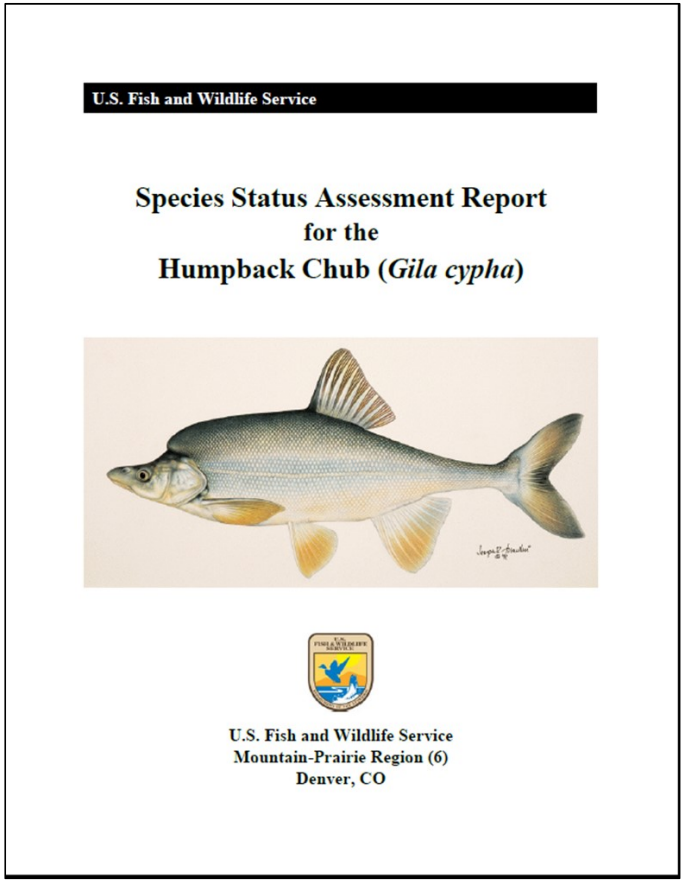


Recovery Planning Documents

1. Species Status Assessment
2. Recovery Plan
3. Implementation Plan

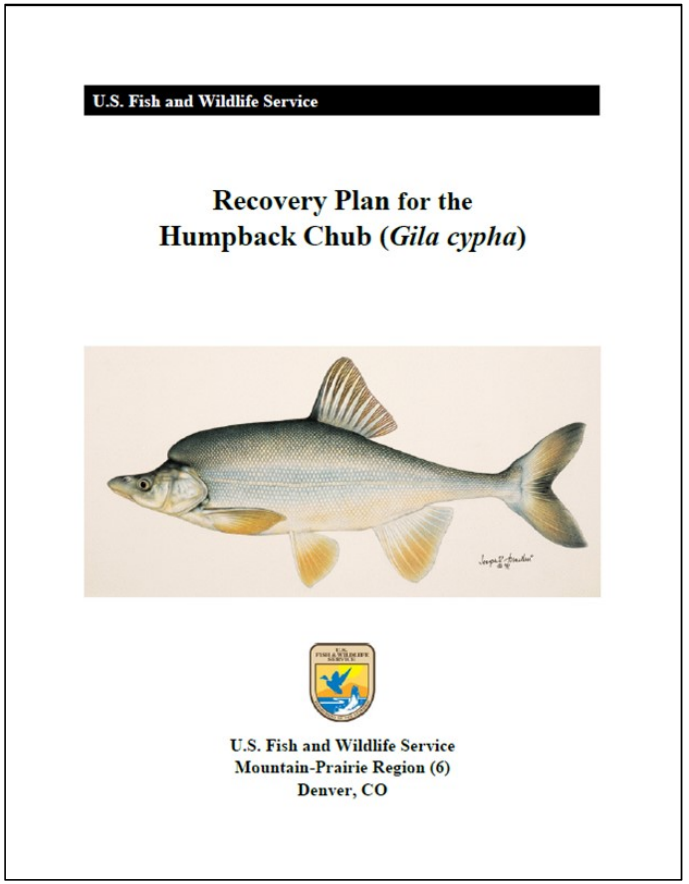
Species Status Assessment

1. **Introduction**
2. **Species Needs**
   a. Species Needs by Life Stage
   b. Population Attributes
3. **Species Current Condition**
   a. Controlling Factors by Life Stage
   b. Causal Relationships (individual, population, species)
4. **Future Condition and Species Viability**
   a. Probable Future Environmental Condition
   b. Species Viability (Resiliency, Redundancy, Representation)



Recovery Plan

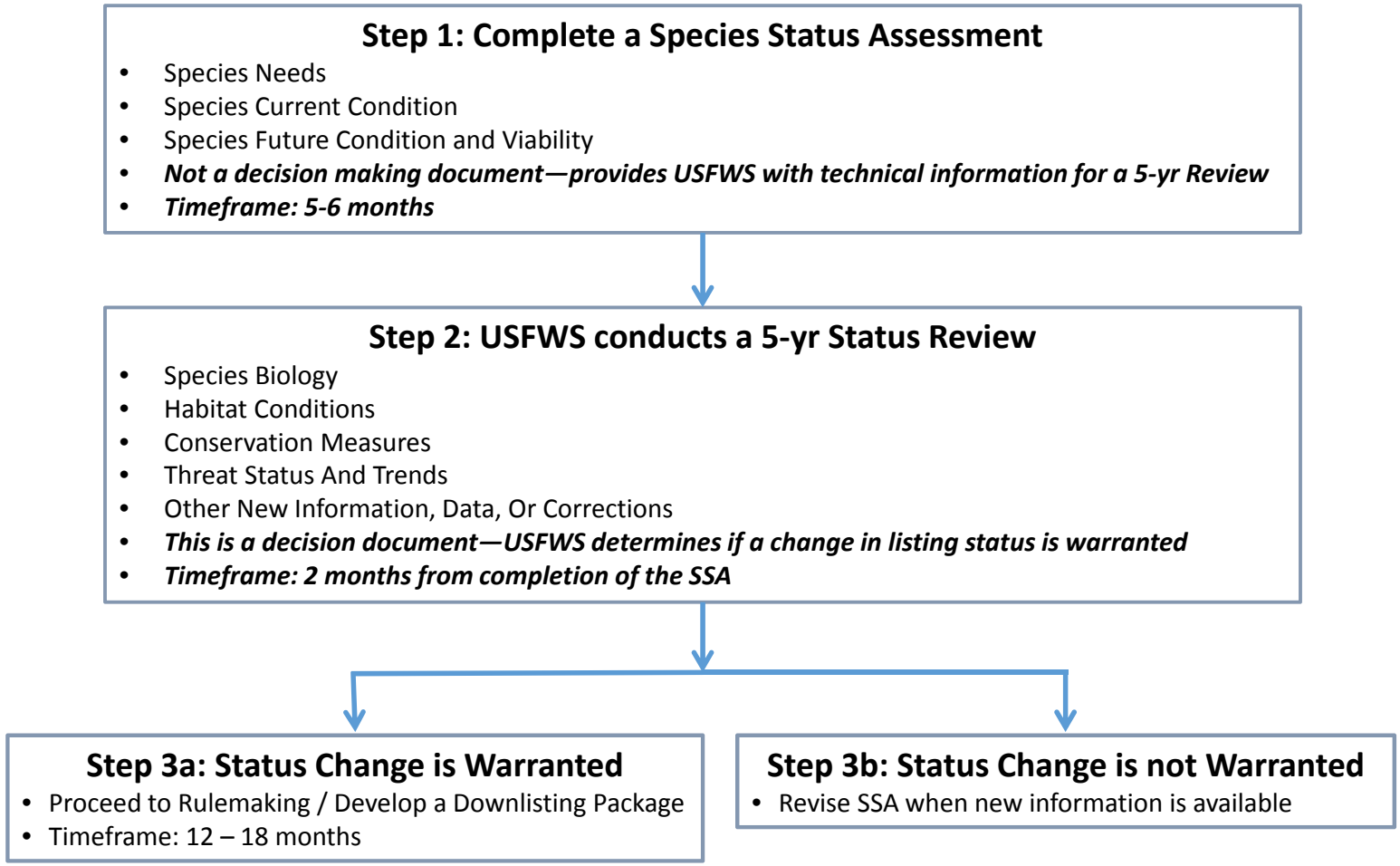
1. Title Page
2. Disclaimer
3. Acknowledgements
4. Executive Summary
5. Background
6. Recovery Strategy
    a. Recovery Units
    b. Goals and Objectives
    c. Actions and Criteria
7. Literature Cited
8. Appendices



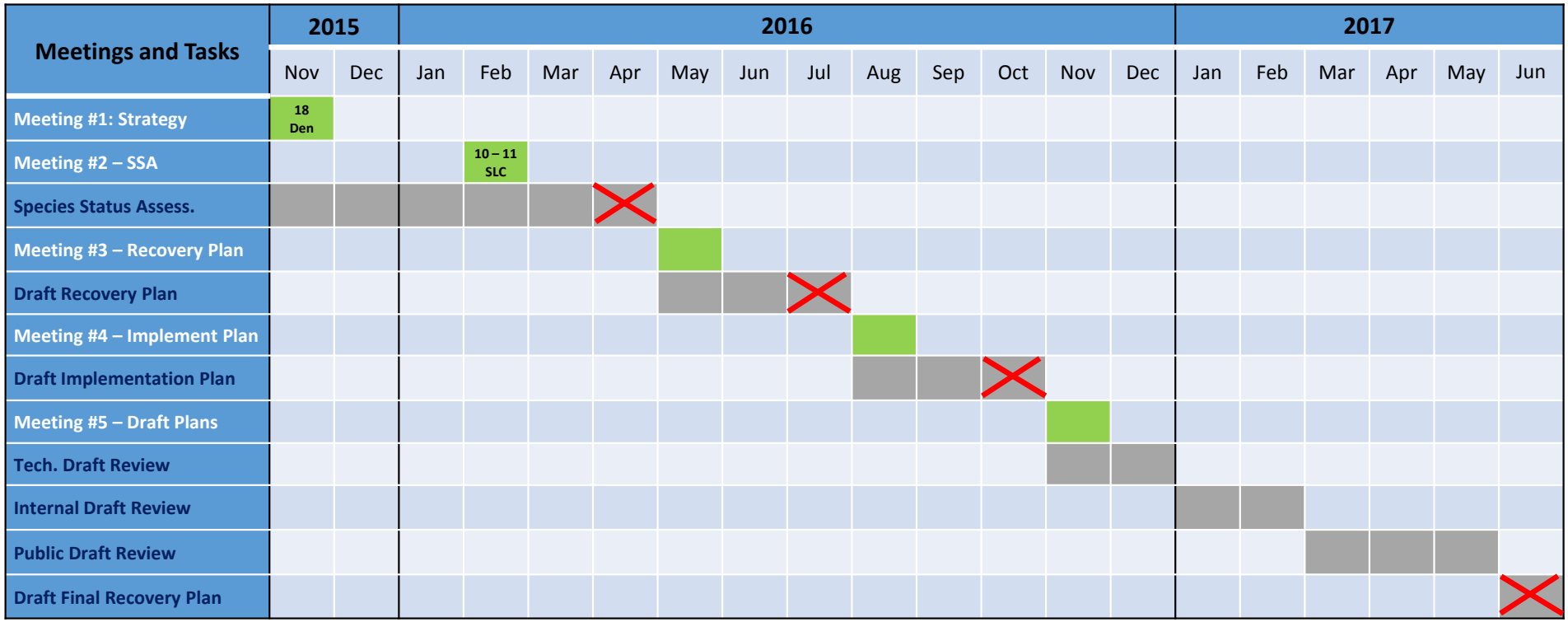
Implementation Plan

1. Action Number: step-down outline
2. Action Priority: most important/necessary
3. Action Description: step-down narrative
4. Action Duration: total duration of action
5. “Responsible Parties”
6. Time and Costs: total and annual

Process for Change in Species Listing Status



Recovery Planning Schedule



Key Points

1. 3 upper basin populations appear stable; Cataract Canyon is small but persists; and Yampa Canyon appears to be locally extirpated.
2. Species Needs in upper basin populations are being largely met.
3. Species Needs in lower basin also appear to be largely met, but are more complex.
4. Recent findings of larvae and juveniles in western Grand Canyon indicate spawning in tributaries such as Havasu Creek or perhaps in the mainstem—possibly an expanding population.
5. Potential expansion in upper basin with receding of Lake Powell.
6. Species Future Condition and Viability largely defined by climate change, hydrology, Lake Powell elevation and impact of nonnative fish.
7. The short-term horizon (e.g., 25-30 years) appears positive for the species; the long-term horizon (e.g., 30-100 years) is more uncertain.

Adult Numbers by Population

Year	GC	BR	WW	DG	CC
1989	10,946				
1990	10,111				
1991	9,342				
1992	8,766				
1993	8,368				
1994	8,045				
1995	7,808				
1996	6,945				
1997	6,118				
1998	5,432	880	6,747		
1999	5,164	994	3,520		
2000	5,048	737	2,266		
2001	5,021			1,254	
2002	5,185			2,612	
2003	5,530	582	2,520	937	468
2004	6,020	559	2,724		273
2005	6,301		2,000		295
2006	6,673			2,578	
2007	7,123	283	1,212	1,108	
2008	7,650	395	1,139		
2009	11,500				
2010	11,300			1,625	
2011	11,500	379	1,467		
2012	12,000	403	1,315		

Approximations from Figures (Yackulic et al. (2014)