Glen Canyon Dam Adaptive Management Work Group

Agenda Item Form
February 15-16, 2017

Agenda Item

Stakeholder's Perspective: Grand Canyon Wildlands Council

Purpose of Agenda Item

To explain why Grand Canyon Wildlands Council is an AMWG member, what they hope to achieve through the Glen Canyon Dam Adaptive Management Program, and what is important to Grand Canyon Wildlands Councilabout the Program.

Action Requested

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

Presenter

Larry Stevens, Senior Ecologist, Grand Canyon Wildlands Council

Previous Action Taken

N/A

Relevant Science

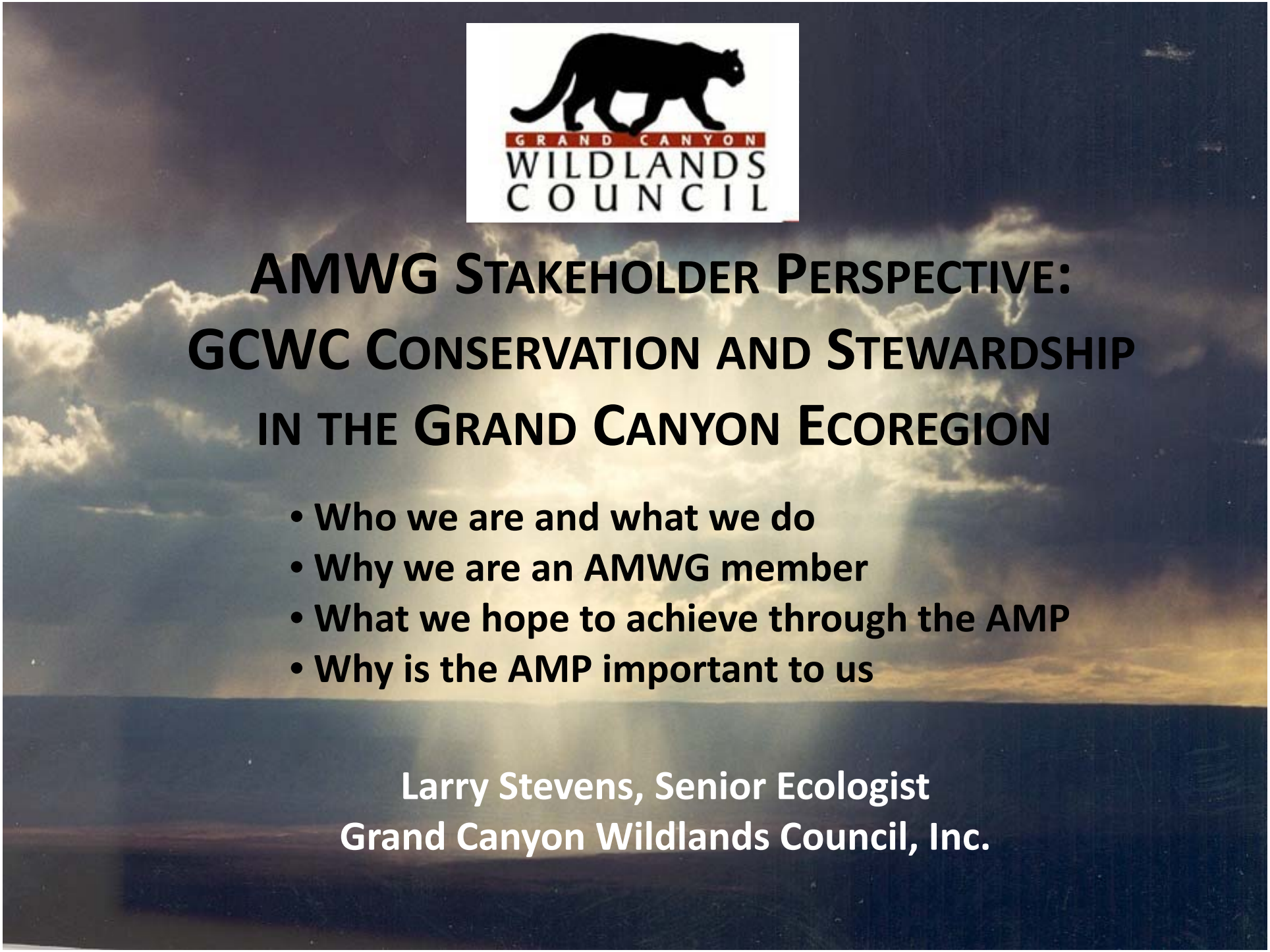
N/A

Summary of Presentation and Background Information

Grand Canyon Wildlands Council, Inc., a 501(c)(3) non-profit, was founded in 1999 to preserve and protect the natural ecosystems and native species in the Grand Canyon Ecoregion (GCE). The Council is affiliated with the Wildlands Network, and is engaged in regional conservation of the Colorado Plateau and Colorado River. GCWC works to fulfill its mission by:

- Applying scientific conservation principles across spatial and social scale in the GCE.
- Conducting basic and applied scientific studies to further understanding of the distribution, diversity, and condition of GCE biota and ecosystems.
- Providing scientific and policy advisement, insight, guidance, and direct assistance to resource stewards, including all levels of society.

GCWC's attention in the GCDAMP has focused on pursuit of these goals and objectives, and intends to continue to do so in the future to reduce threats to all native species and natural ecosystems in the CRE and GCE. Dr. Stevens will describe GCWC's history, staff, collaborations, and future plans to achieve its goals and objectives.



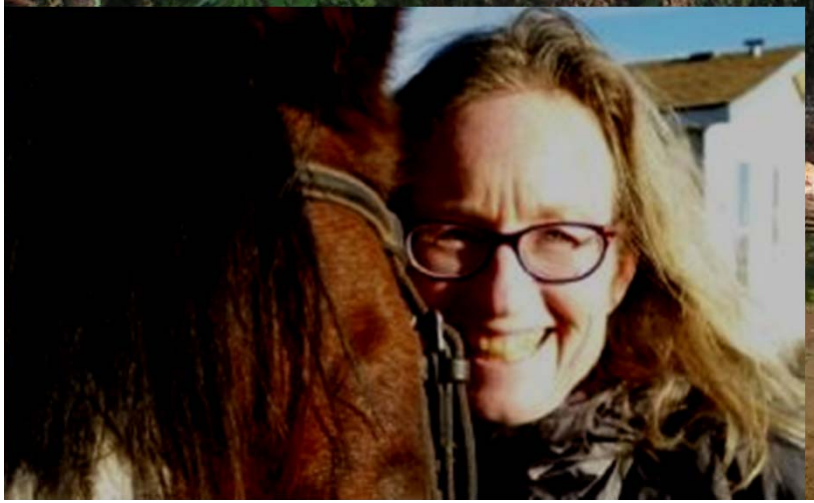
AMWG Stakeholder Perspective: GCWC Conservation and Stewardship in the Grand Canyon Ecoregion

- Who we are and what we do
- Why we are an AMWG member
- What we hope to achieve through the AMP
- Why is the AMP important to us

Larry Stevens, Senior Ecologist
Grand Canyon Wildlands Council, Inc.

Grand Canyon Wildlands Council, Inc.

Kelly Burke, Executive Director
Kim Crumbo, Conservation Director
Larry Stevens, Senior Ecologist
Board (6) and Staff (3)



History: Started 1996, incorporated in 1999 as a 501(c)(3)

Vision : Ensuring safe havens and safe passages for all the Grand Canyon ecoregion's native wild life

Objectives:

- Conservation science across spatial scale
- Advisement
- Collaborative on-the-ground actions

Formal alliance with Wildlands Network

Membership: 200 conservation organizations

Funding: NGOs, contributions, projects, book sales

GRAND CANYON WILDLANDS COUNCIL

Collaboratively protecting and restoring wild nature in the Grand Canyon Ecoregion

Wildlands NETWORK

AZRA DISCOVERY GRAND CANYON RAFTING

SIERRA CLUB

NINA MASON PULLIAM CHARITABLE TRUST

US Bureau of Reclamation

MUSEUM of NORTHERN ARIZONA

SKY ISLAND ALLIANCE

ESRI Technology CONSERVATION

GCROA GRAND CANYON RIVER OUTFITTERS ASSOCIATION

US FWS

WaterSMART

WESTERN WILDWAY NETWORK

PENNSTATE 1855

AZ Wilderness Coalition

University of Lethbridge

UNLV University of Nevada, Las Vegas

FOREST SERVICE US DEPARTMENT OF AGRICULTURE

GRAND CANYON TRUST

NATIONAL PARK SERVICE

US BLM

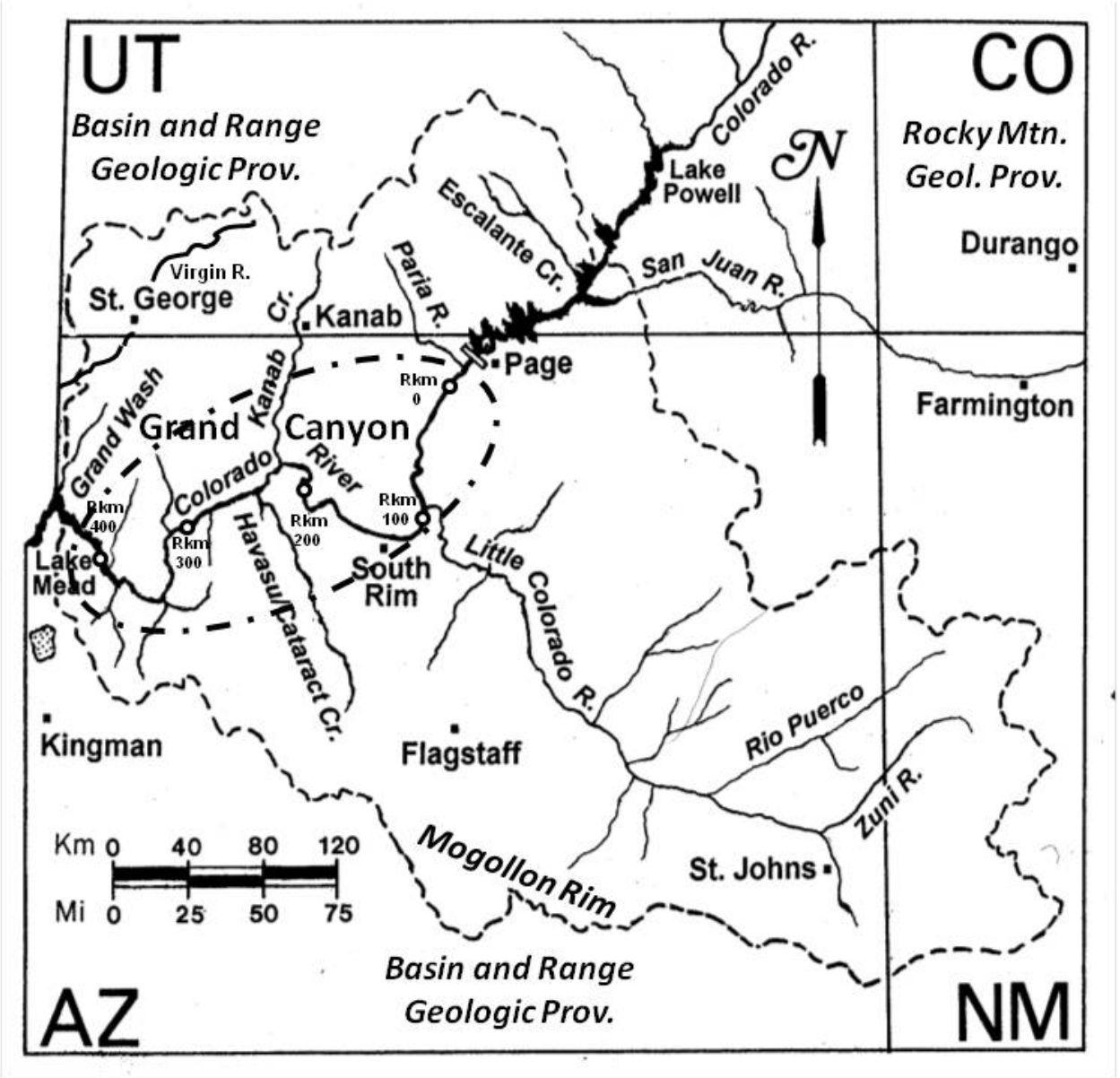
NORTHERN ARIZONA UNIVERSITY

USGS science for a changing world

Arizona State Land Department

The Grand Canyon Ecoregion:

35,000 km^2, 75 ecosystems, ~25,000 native species



NATIONAL /INTERNATIONAL SCALE CONSERVATION

Springs Stewardship Institute

The Spine of the Continent - Wildlands Network connectivity

John Davis Western Wildways Trek (5 K mi Sonora to BC 2014)

Collaboration -Sky Island Alliance, Wild Utah

Movie premieres tonight in Tucson

National species and landscape conservation

REGIONAL-SCALE CONSERVATION

National Monuments

- GSENM – LES Mon. Advisory Panel Chair
- GC-Parashant/Vermilion Cliffs proclamations 2000
- Greater GC Heritage Nat'l Monument designation
- Advisement – EISs, FS Plans, road networks
- GC Wilderness and Wild & Scenic designation
- Wolf recovery
- Why in AMP – collaborating organizations choice

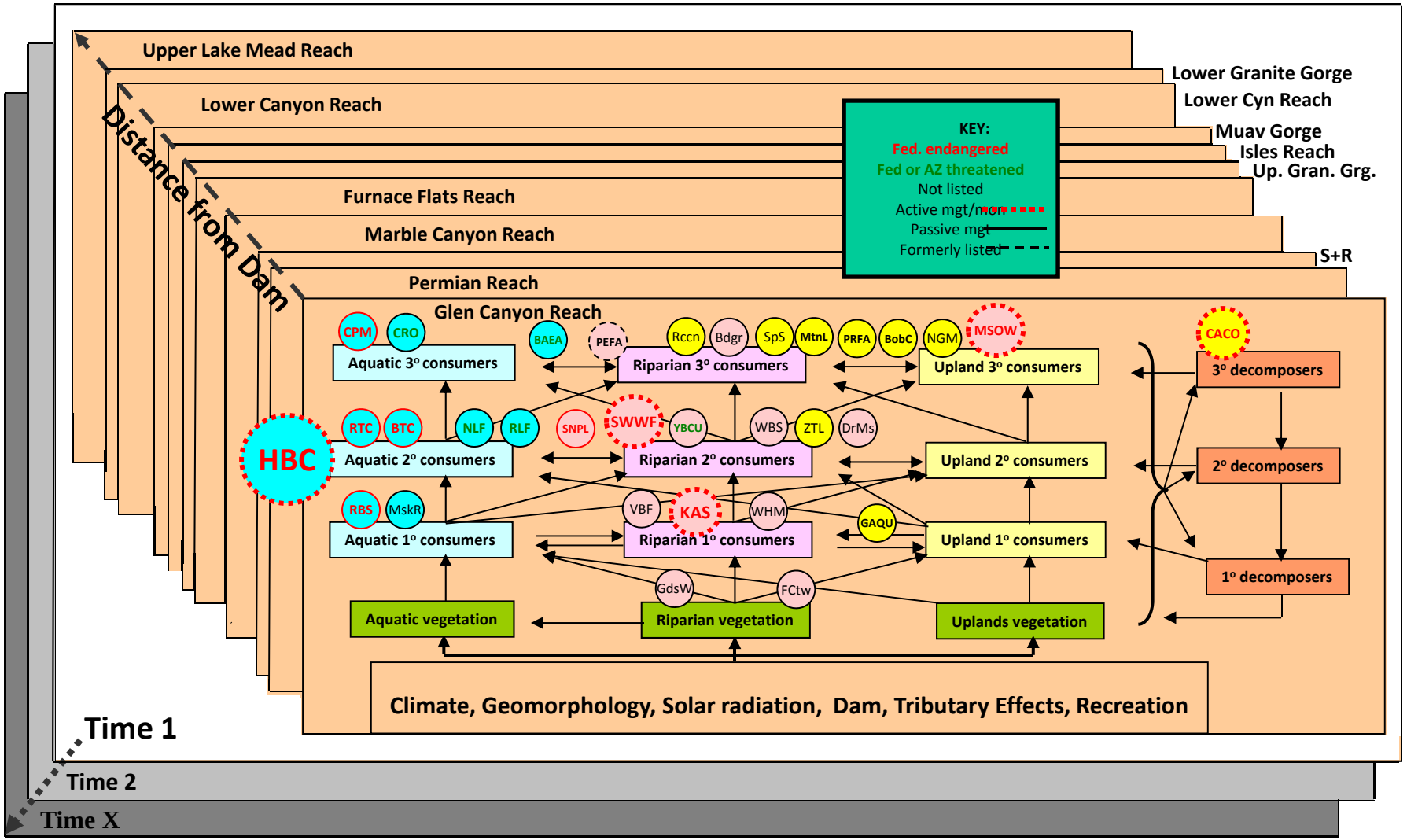
GRAND CANYON WILDLANDS COUNCIL

Local and Regional Scales
What we want to achieve with AMP

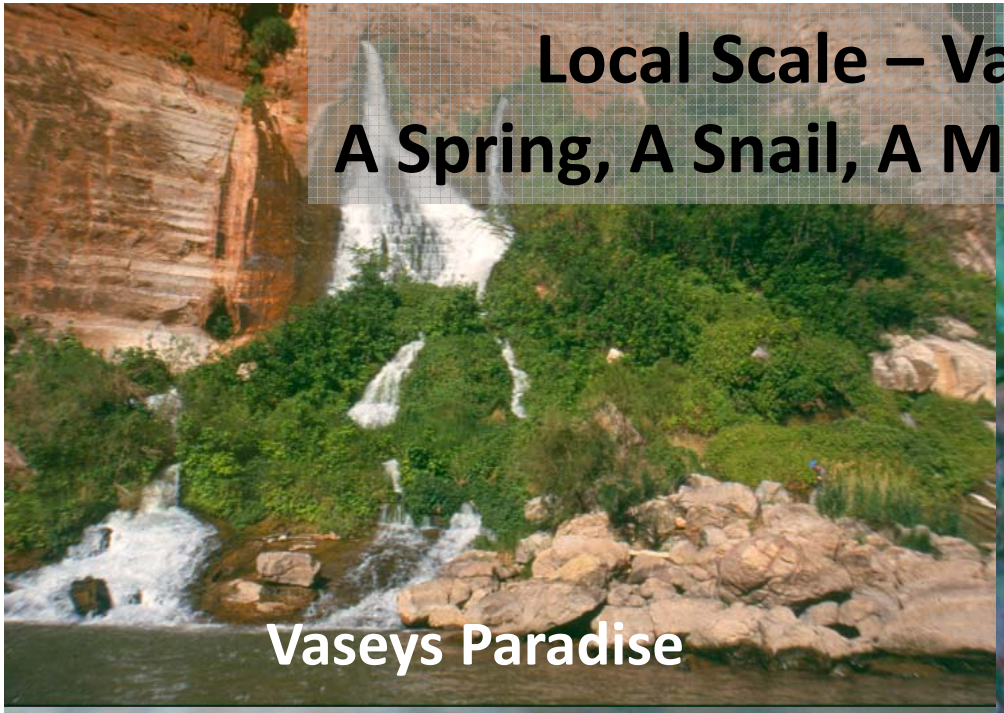
AMWG and TWG use of science for
for CRE stewardship
Positive, collaborative partnerships
Effective management of physical processes
Population monitoring – all the canaries, native and not
Restoration planning and action
Diverse, viable habitats
SMC - missing species restoration
ZTL with Hualapai Tribe
Restore HBC and other species to full range
Riparian habitat restoration – 3 sites in Glen Canyon

GRAND CANYON
WILDLANDS
COUNCIL

SIMPLIFIED CONCEPTUAL MODEL OF THE COLORADO RIVER ECOSYSTEM, SHOWING THE TROPHIC POSITION OF EXTIRPATED AND LISTED FAUNA



Local Scale – Vaseys Paradise:
A Spring, A Snail, A Management Dilemma



Vaseys Paradise

Native Crimson Monkeyflower

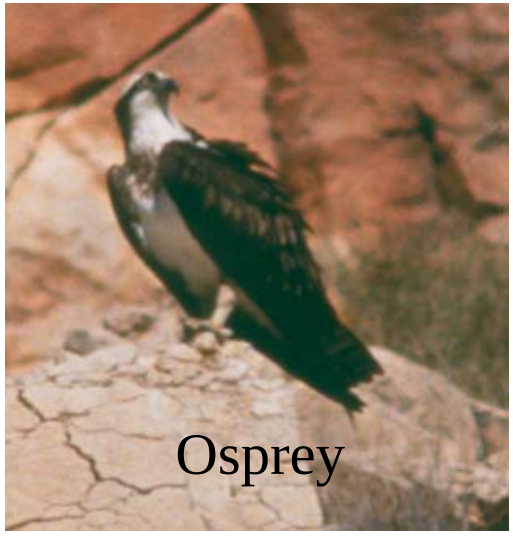
Endangered Kanab Ambersnail

Non-native Watercress


Riparian vegetation, including marshes developed
from 1965-1982, 1987-present.
Respond positively to fluctuating flows,
but scoured by high flows, reduced by low flux flows

Grand Canyon Waterbirds: 60 Species and Counting


American Avocet


Osprey

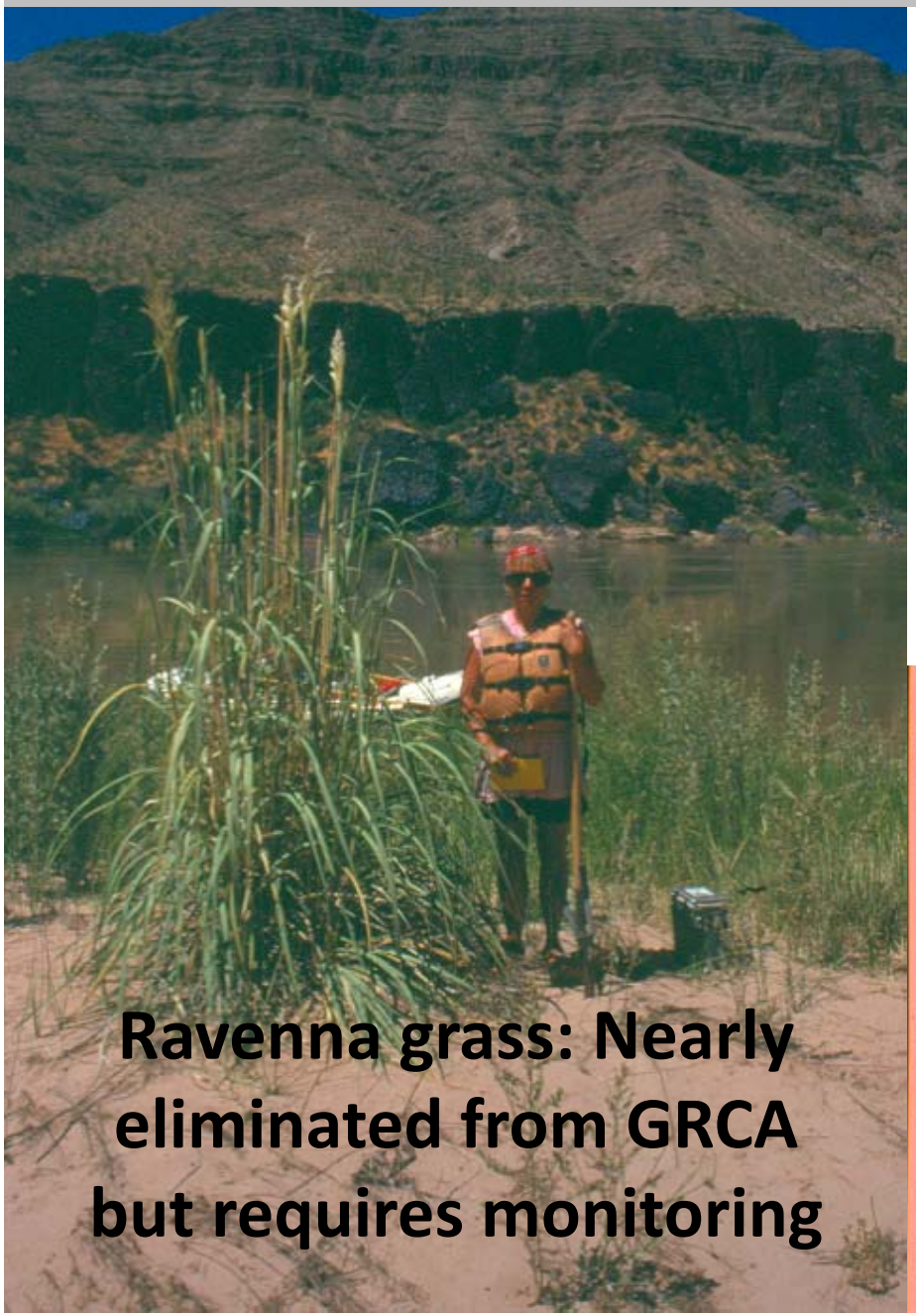
Falco peregrinus: the “Wandering Scythe”

Grand Canyon supports the largest breeding population of peregrine falcon on any land management unit in the co-terminous United States.

Top predator in the CRE

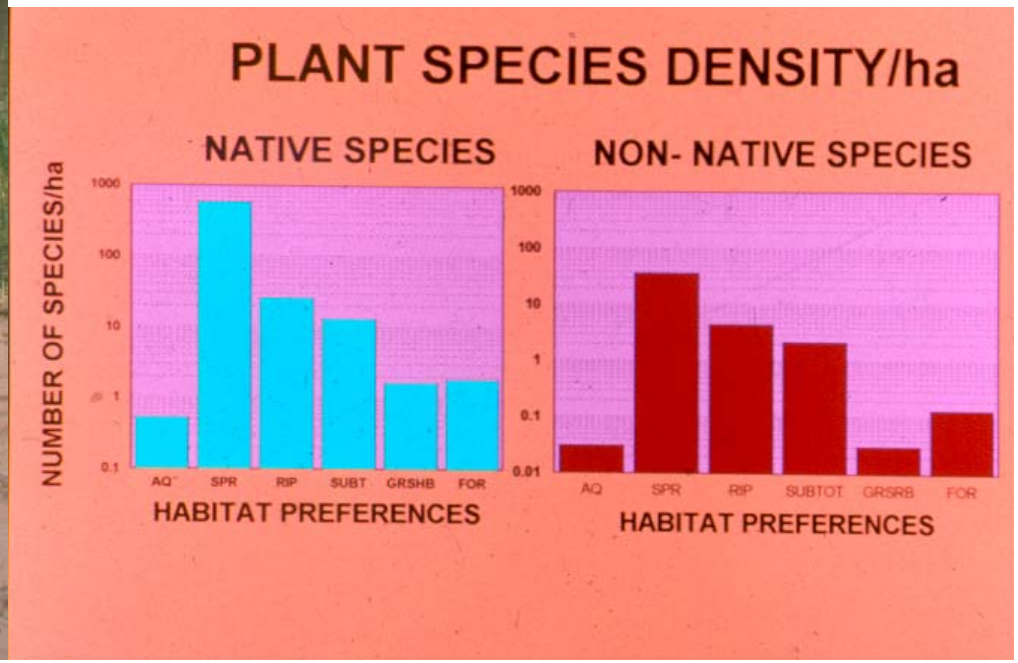
90 % of prey biomass is waterbirds, mostly related to post-dam clearwater flow.

Collaborative Non-native Plant Management



Ravenna grass: Nearly eliminated from GRCA but requires monitoring

1. 10.5% of GC plants are non-native (same proportion in UK)
2. Non-native biodiversity is highest in the most species-rich and productive habitats (i.e., riparian habitats, springs)
3. GCWC assisted NPS eliminate 4 highly invasive plant species



TAMARISK CONTROVERSY

Tamarisk is poor habitat in lower CR (Ohmart et al.)

versus

Tamarisk is good habitat in Grand Canyon (Brown et al.)

~ 30 neotropical migrant bird spp nest in it in GC

88-95% of ~300 willow flycatcher nests in Arizona are in tamarisk

CRE is designated as critical habitat for endangered WIFL

Endangered SWFL extirpated from Grand Canyon during AMP

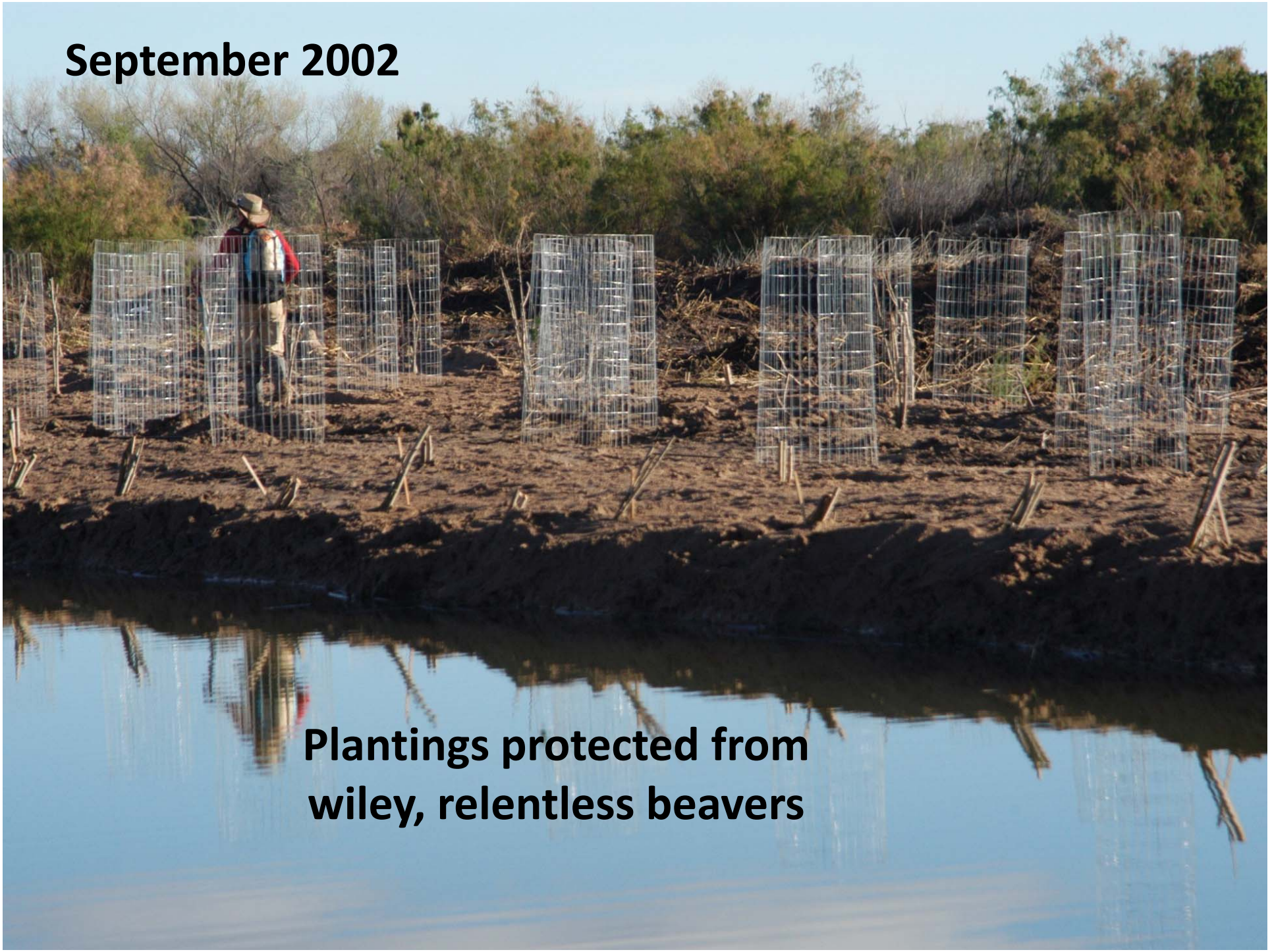
Grand Canyon Riparian Restoration: Tamarisk Management and Control

2001-2014 LF Tamarisk Project

- 1996 Experimental flood conducted in March and successfully avoided tamarisk recruitment
- 2000 flows demonstrated that poorly timed floods result in widespread establishment of tamarisk
- Initiation of AWPF-GLCA-GCWC Lees Ferry project
  - Replacement of 10 ac of tamarisk at Lees Ferry
  - Tamarisk removal from GC tributaries, 2002-2006 (Labor-intensive, but effective)


January 2001
THE LEES FERRY TAMARISK PROJECT
2001 - 2014


May 2002

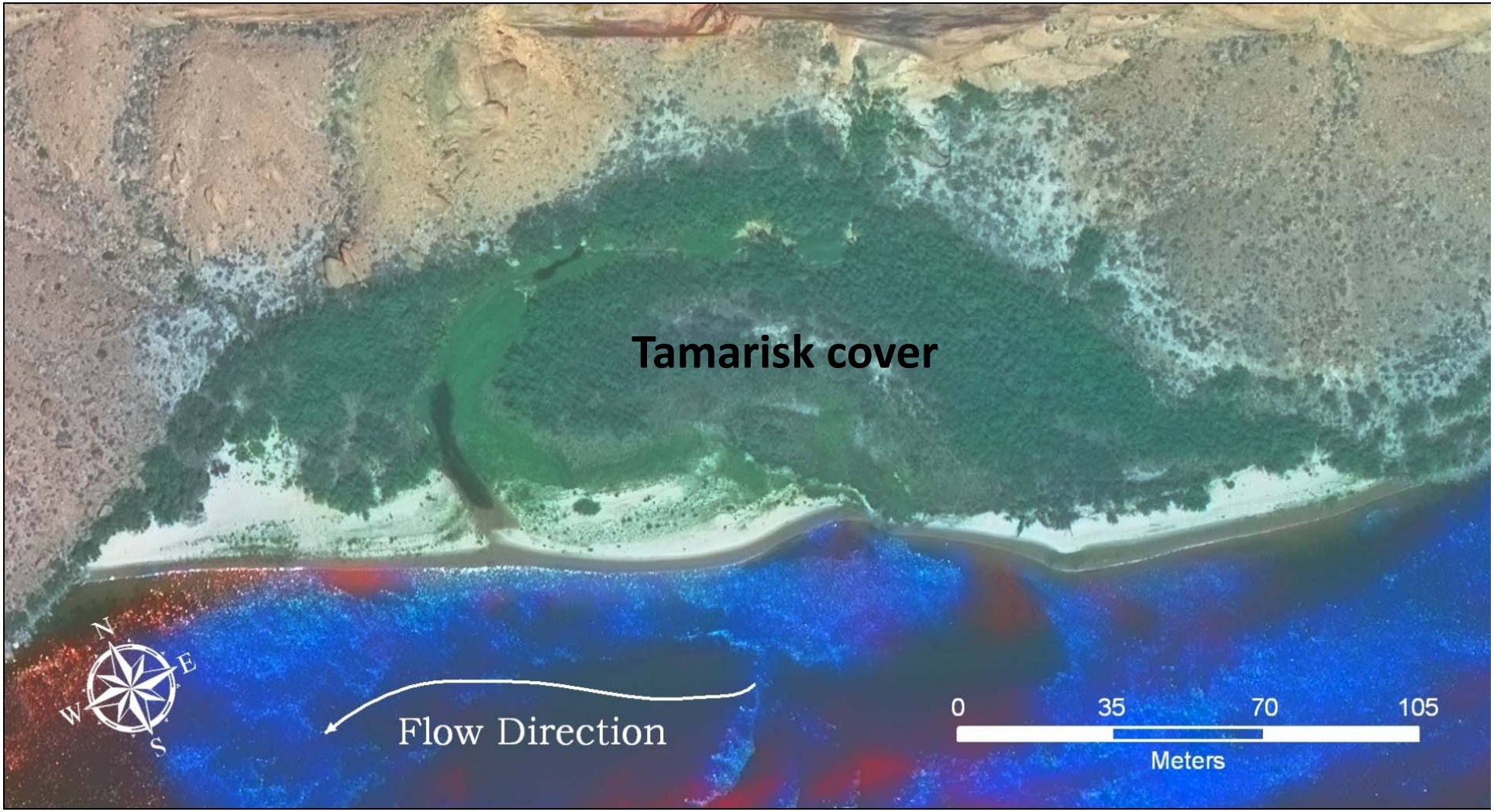

September 2002
Plantings protected from
wiley, relentless beavers


June 2005

April 2014

Biological Control: Tamarisk leaf beetle
Defoliates trees and slowly kills them, but no habitat replacement

Remote Hidden Slough Restoration Site
(Colorado River Mile -6.5R)
Glen Canyon National Recreation Area, Arizona




2008
2009
2014

Leopard Frog Marsh (-9L) Habitat Rehabilitation
Planning, Compliance, Habitat Reconstruction
2010-2015

Working with Collaborators:
Prescott College and Grand Canyon Wildlands Council
Excavating Leopard Frog Springs Habitat
in Glen Canyon, March 2015


2012

More than 120 peer-reviewed and popular publications related to CRE water and biological resources ecology, status, management and policy

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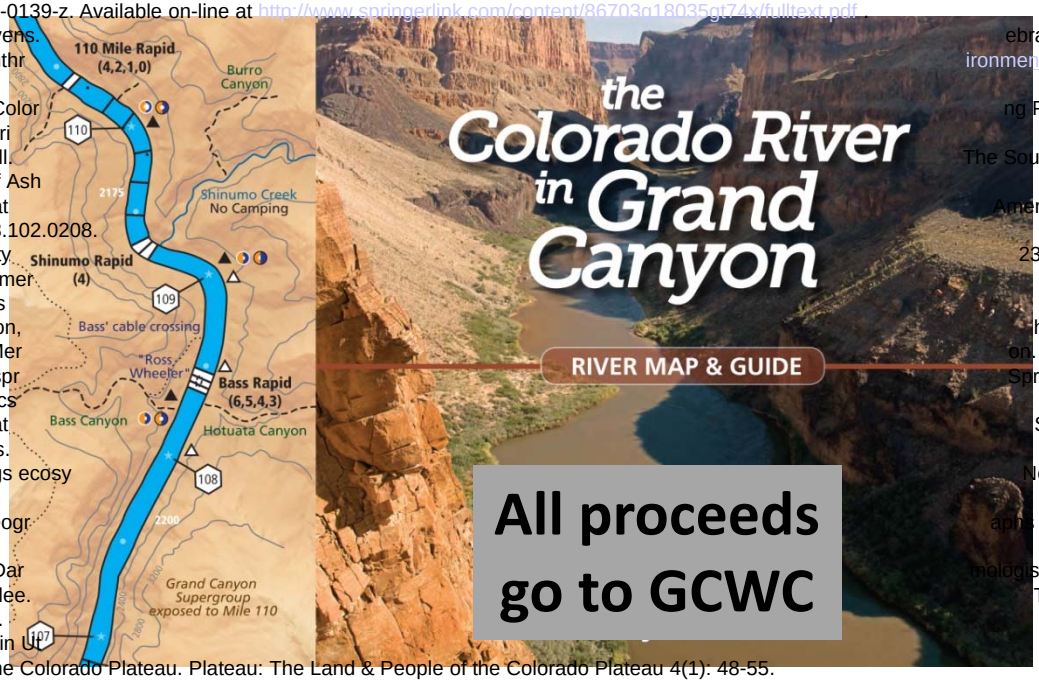
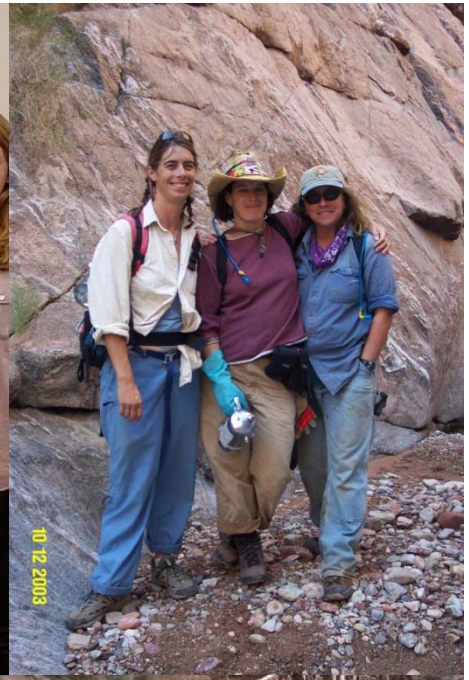



YELLOWSTONE TO YUKON
ROUND RIVER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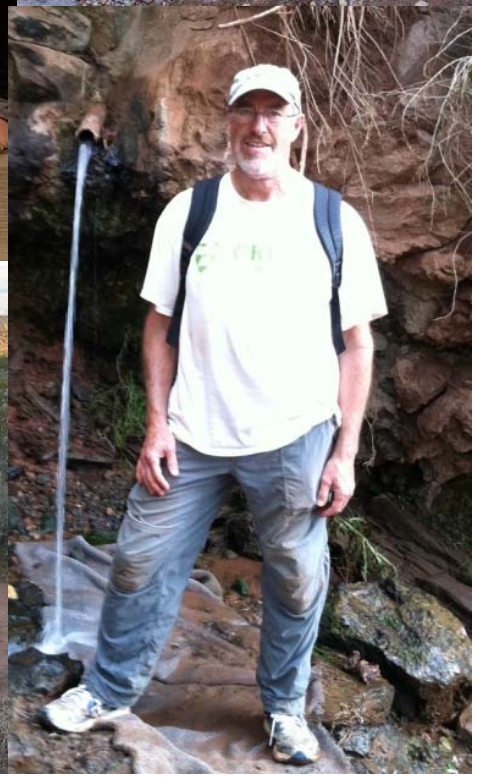


Photo: Paul Hirt