

A large flock of ducks is captured in flight over a wetland area. The ducks are in various stages of flight, with wings spread wide, against a backdrop of tall, dry grasses and a body of water. The sky is a pale, overcast grey. The ducks have a mix of brown, grey, and white plumage. The overall scene is dynamic and natural.

State Water Resources Control Board

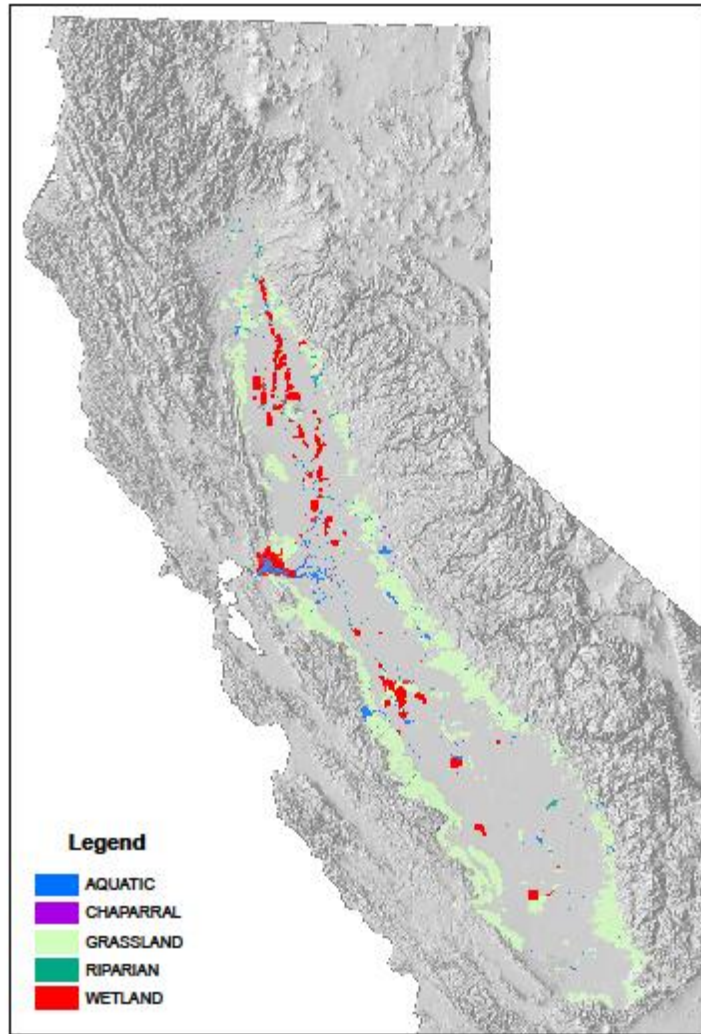
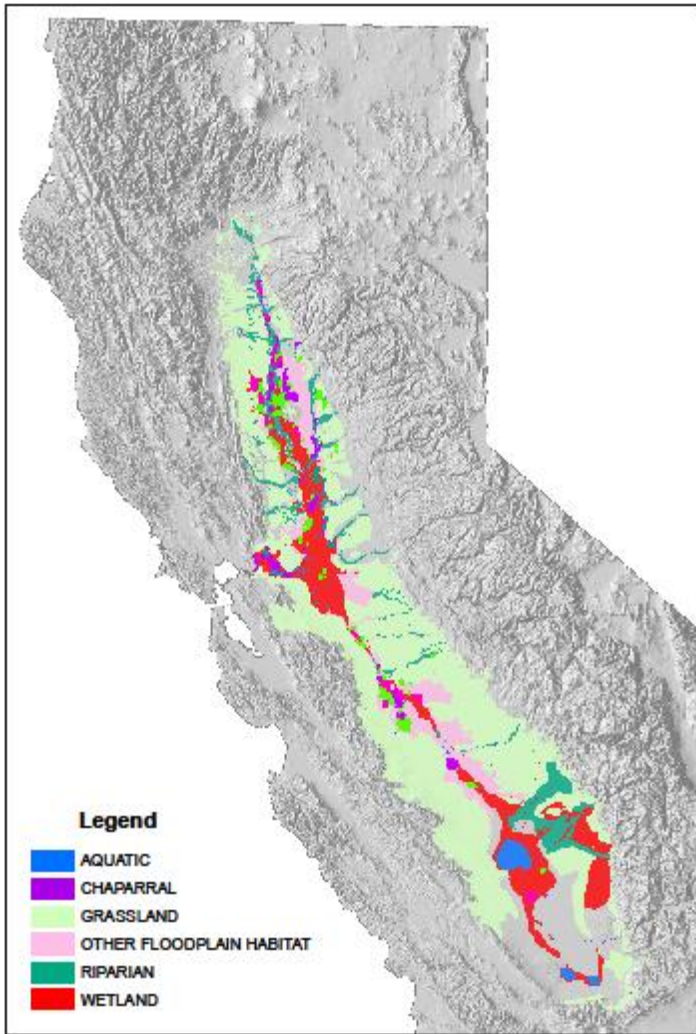
Mark Petrie
Ducks Unlimited



Conserving Bird Habitat in California

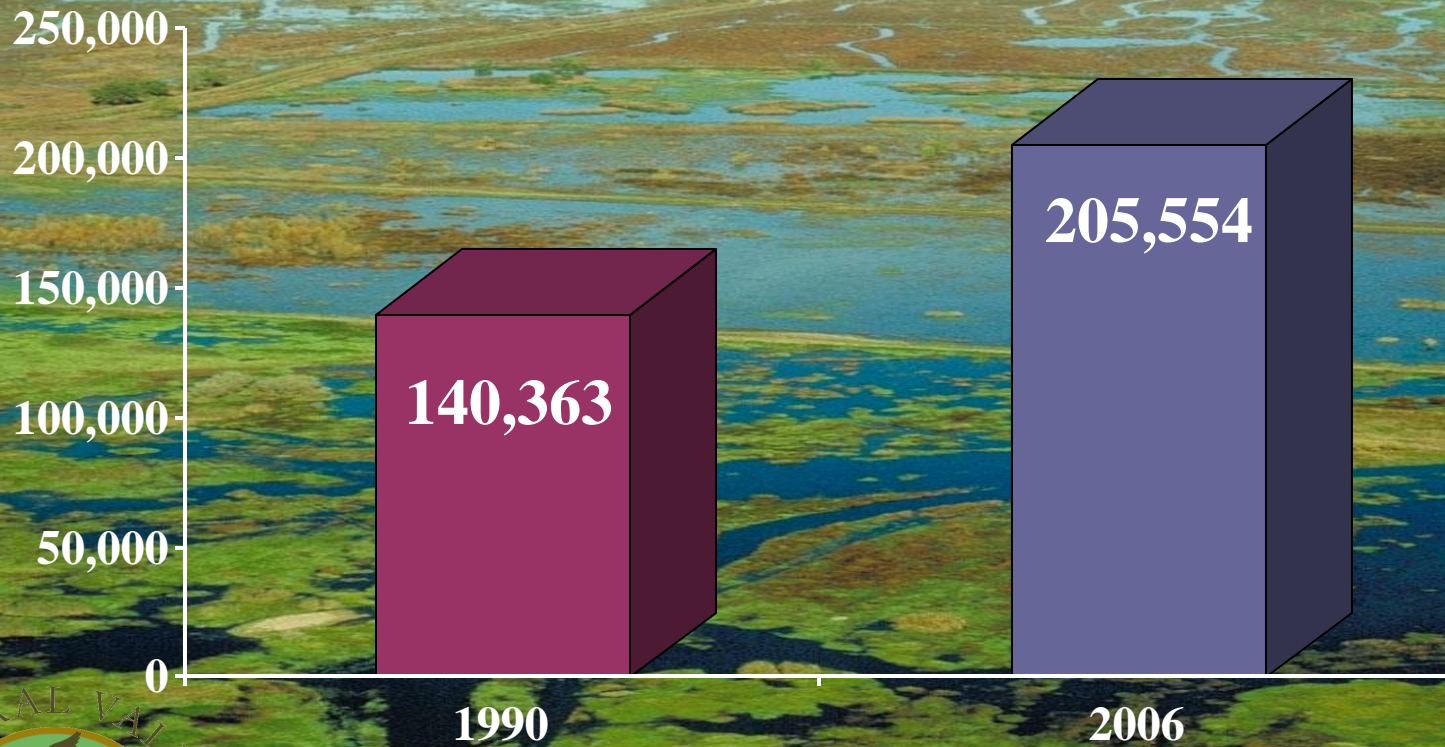
Board Members

- Audubon California
- California Waterfowl Association
- Defenders of Wildlife
- Ducks Unlimited
- PRBO Conservation Science
- River Partners
- The Nature Conservancy
- Trust for Public Land

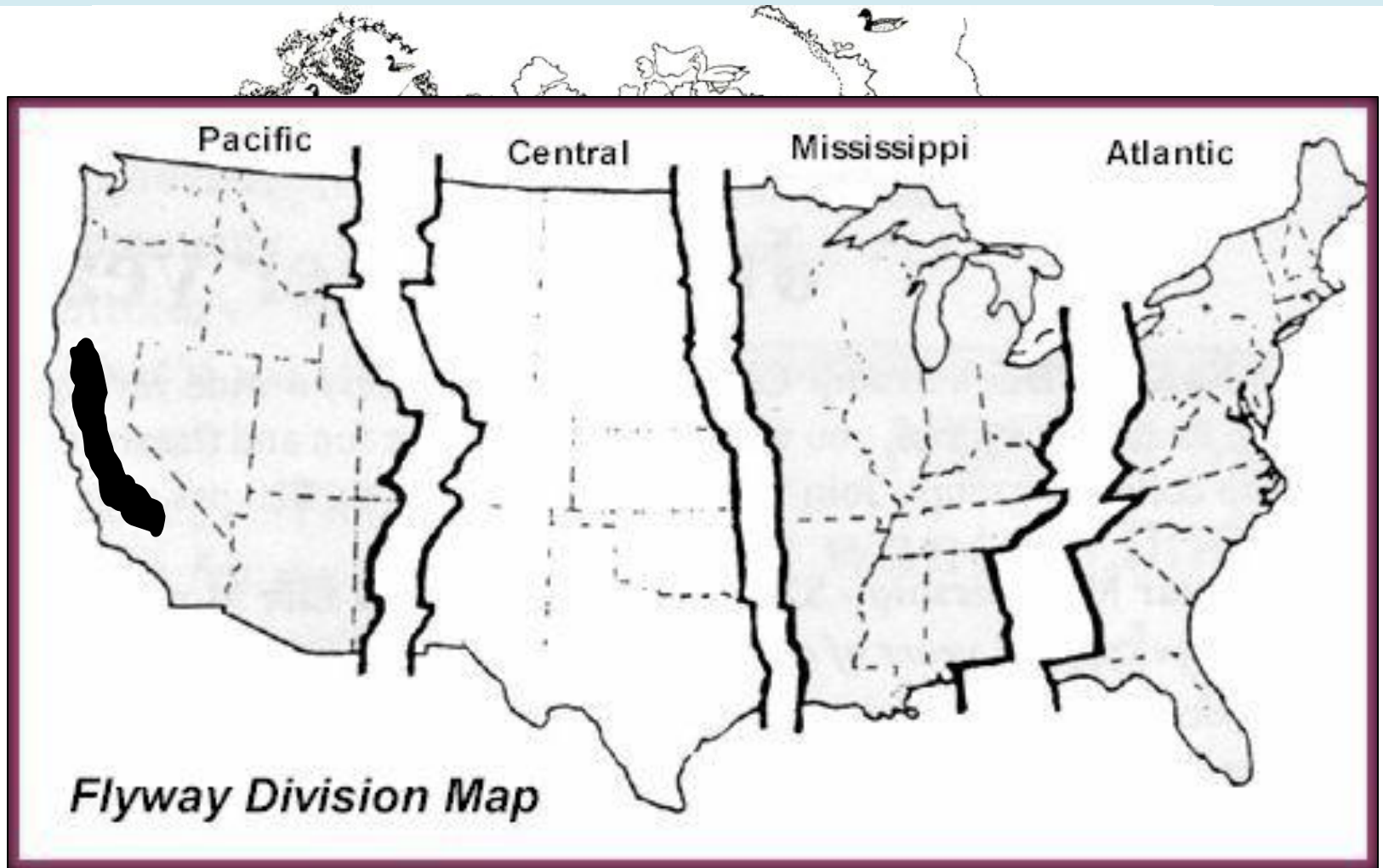


Data Sources: Central Valley Historic Mapping Project, GIC, Chico State; Modern Wetlands, Ducks Unlimited & Central Valley Joint Venture
 Map Design: Ducks Unlimited, Western Regional Office

Wetland Gains



Waterfowl Flyways



PACIFIC

CENTRAL

MISSISSIPPI

ATLANTIC

WATERFOWL FLYWAYS OF NORTH AMERICA

RED BLUFF

CENTRAL VALLEY OF CALIFORNIA

Sacramento Valley

50% of all Ducks

80% of all Geese



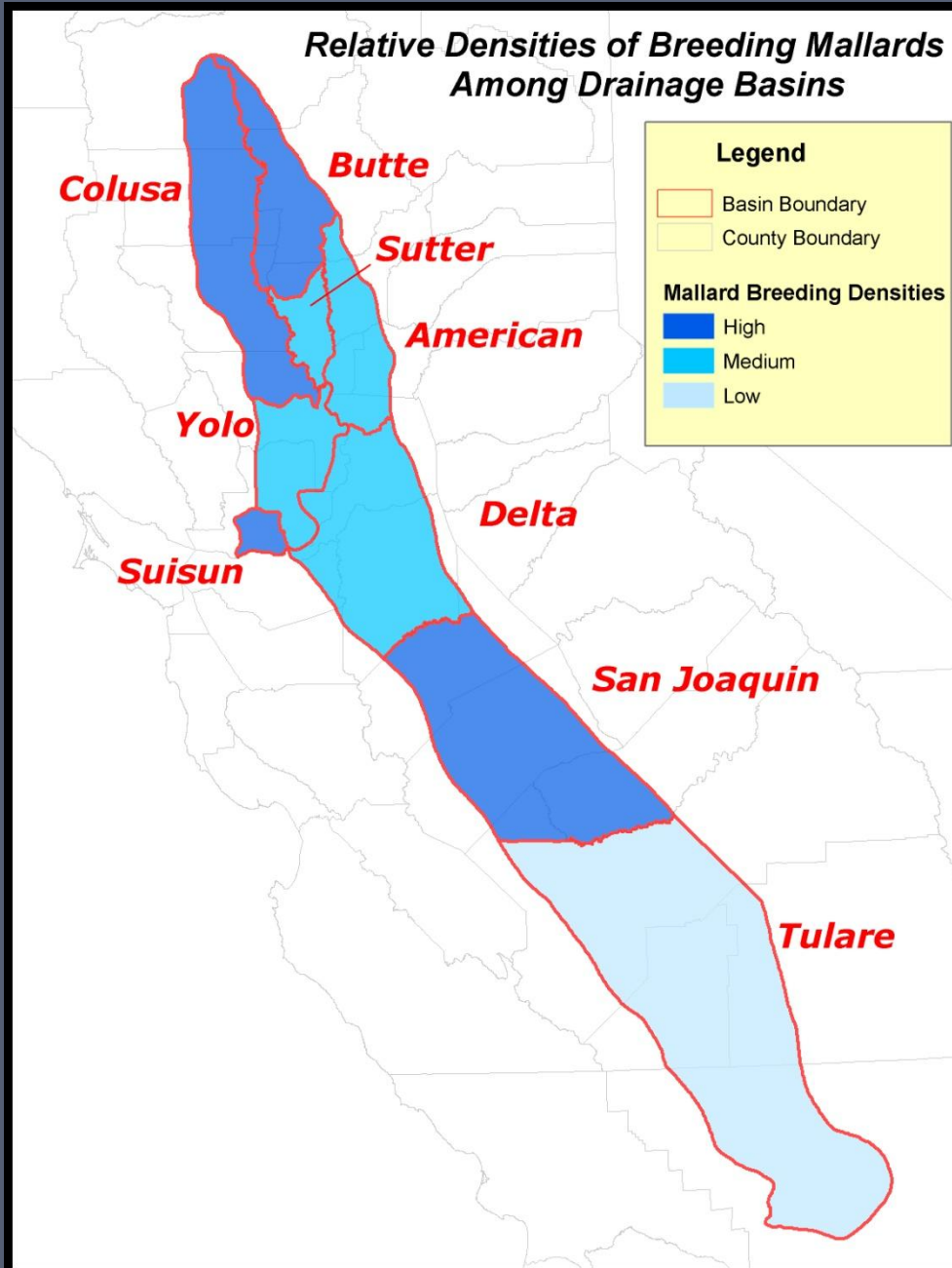
CB
BB
SB
AB
YB
SM
D

SJB

TB

BAKERSFIELD

Relative Densities of Breeding Mallards Among Drainage Basins

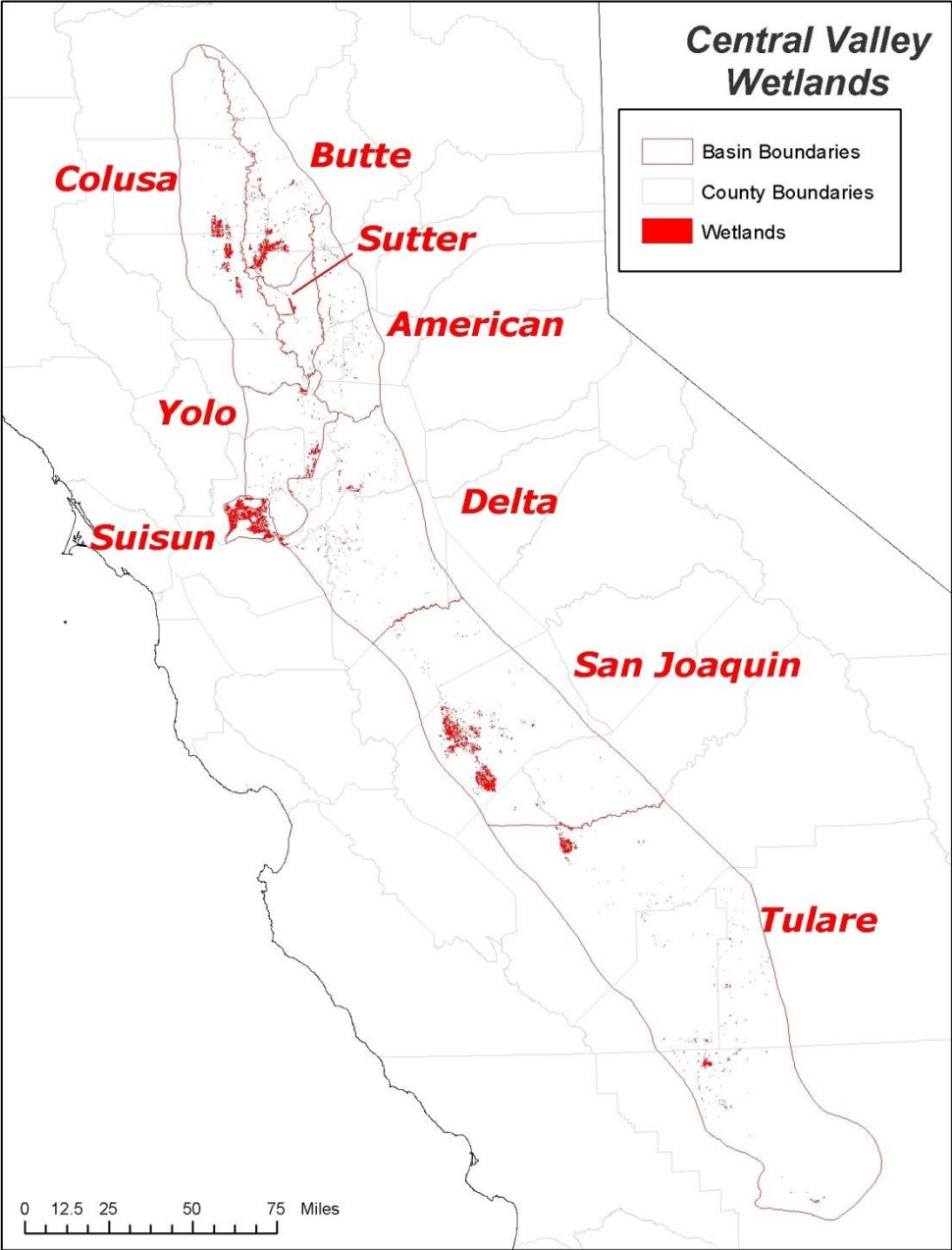


Recognized as a site of international importance to shorebirds



Central Valley Wetlands

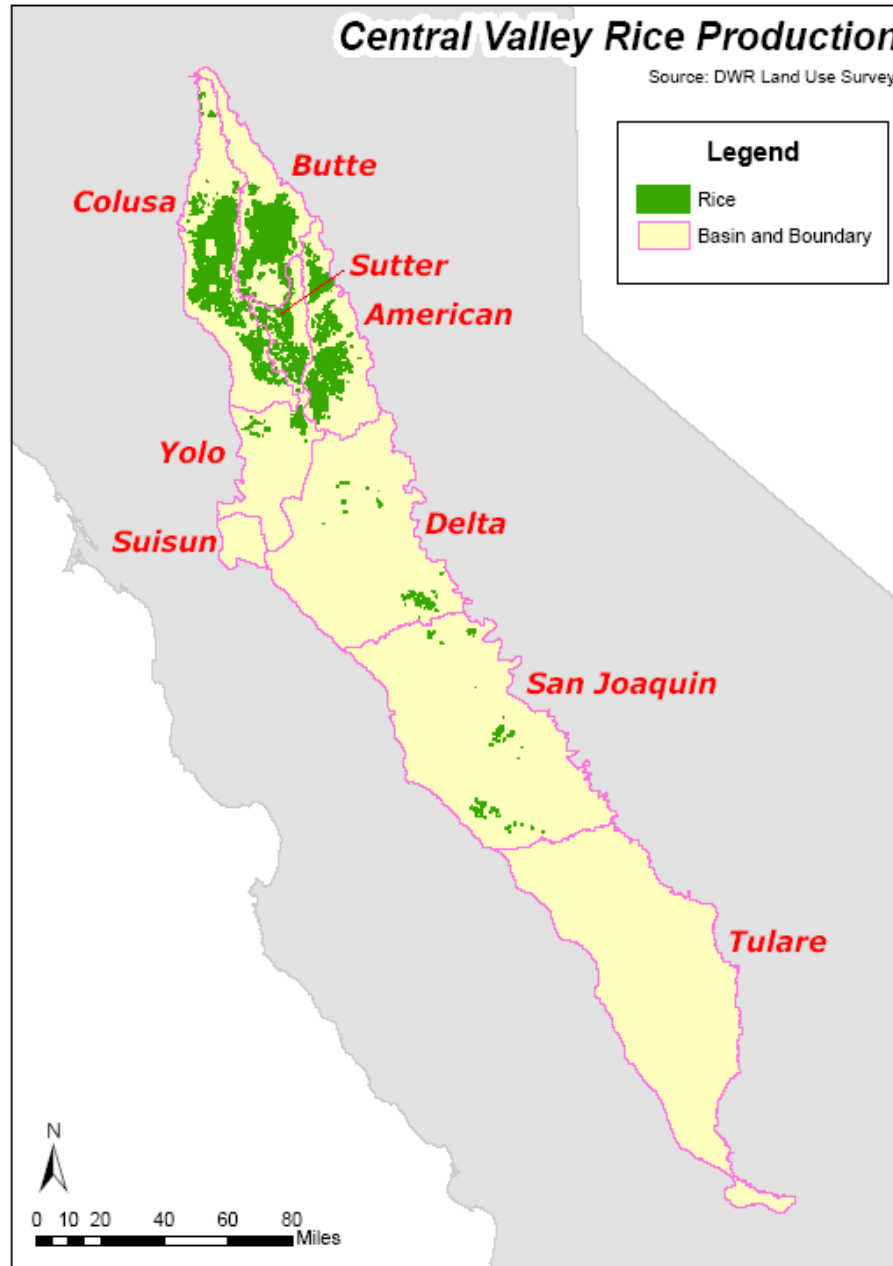
Basin Boundaries
County Boundaries
Wetlands



0 12.5 25 50 75 Miles

Central Valley Rice Production

Source: DWR Land Use Survey





Population Energy Demand

**Population
Objective**

**Bird Energy
Needs**

Population Energy Supply

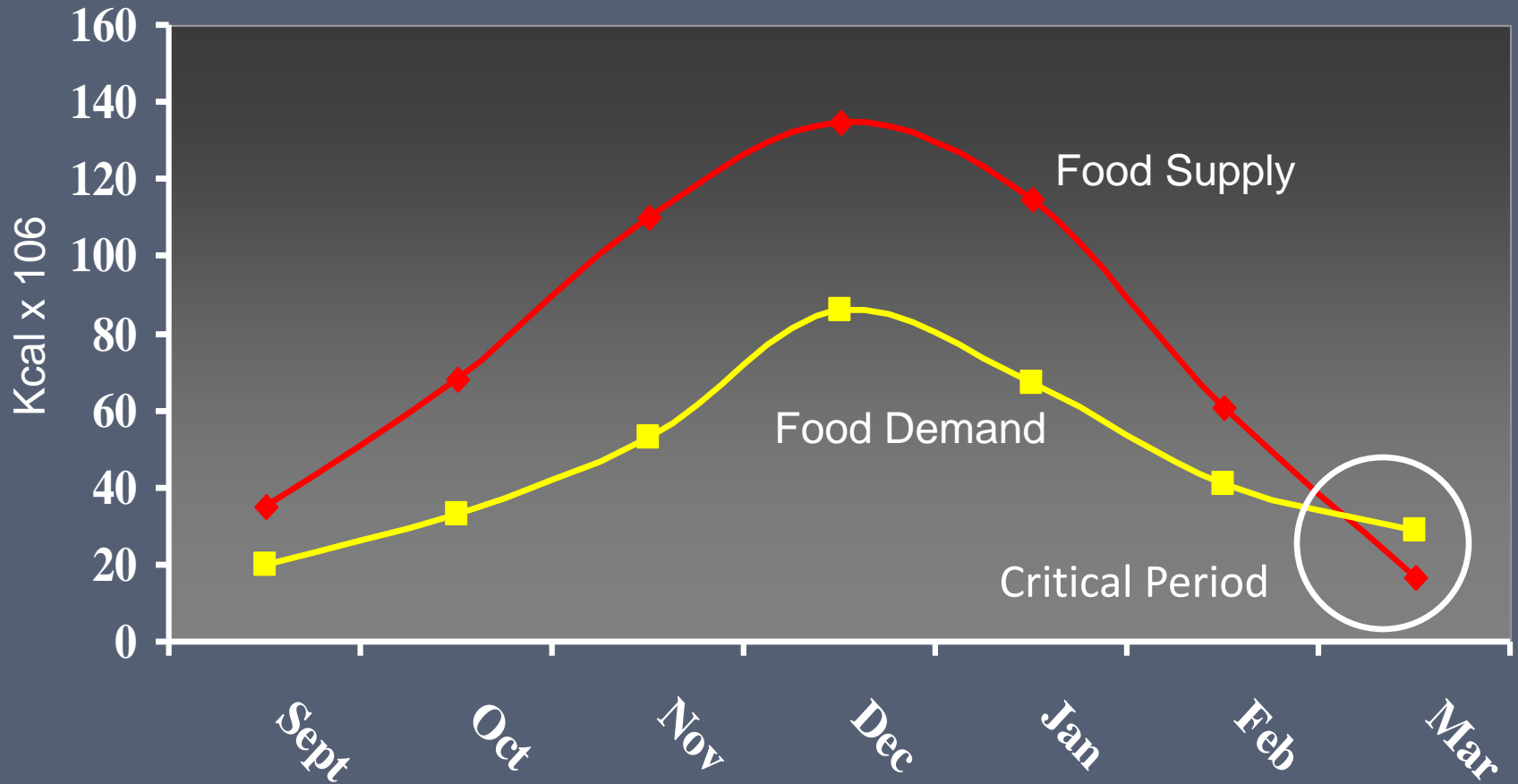
Habitat Acres

Food Densities

**Deficit
Enough
Surplus**

Central Valley
Joint Venture

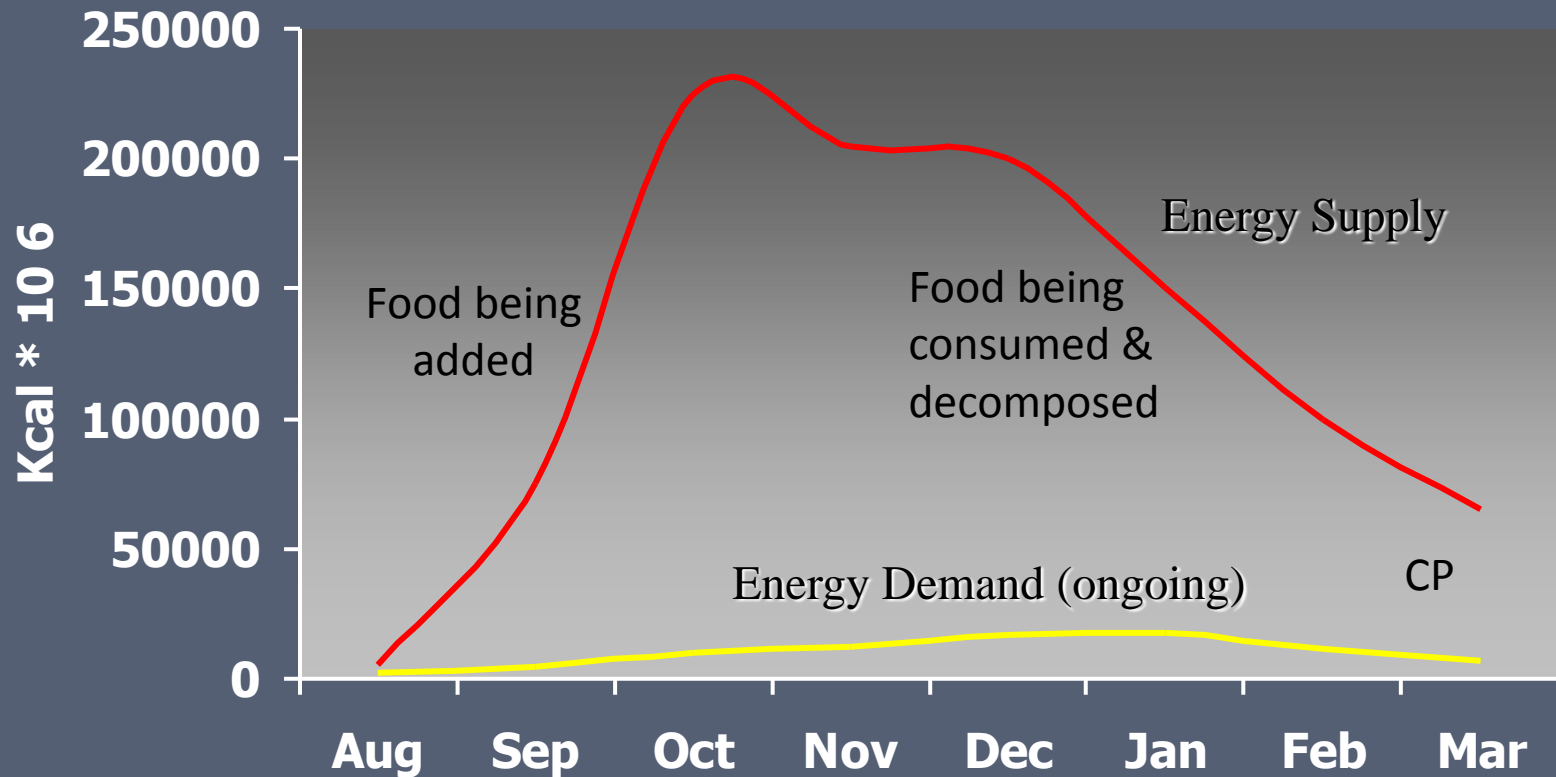
Waterfowl Carrying Capacity Model



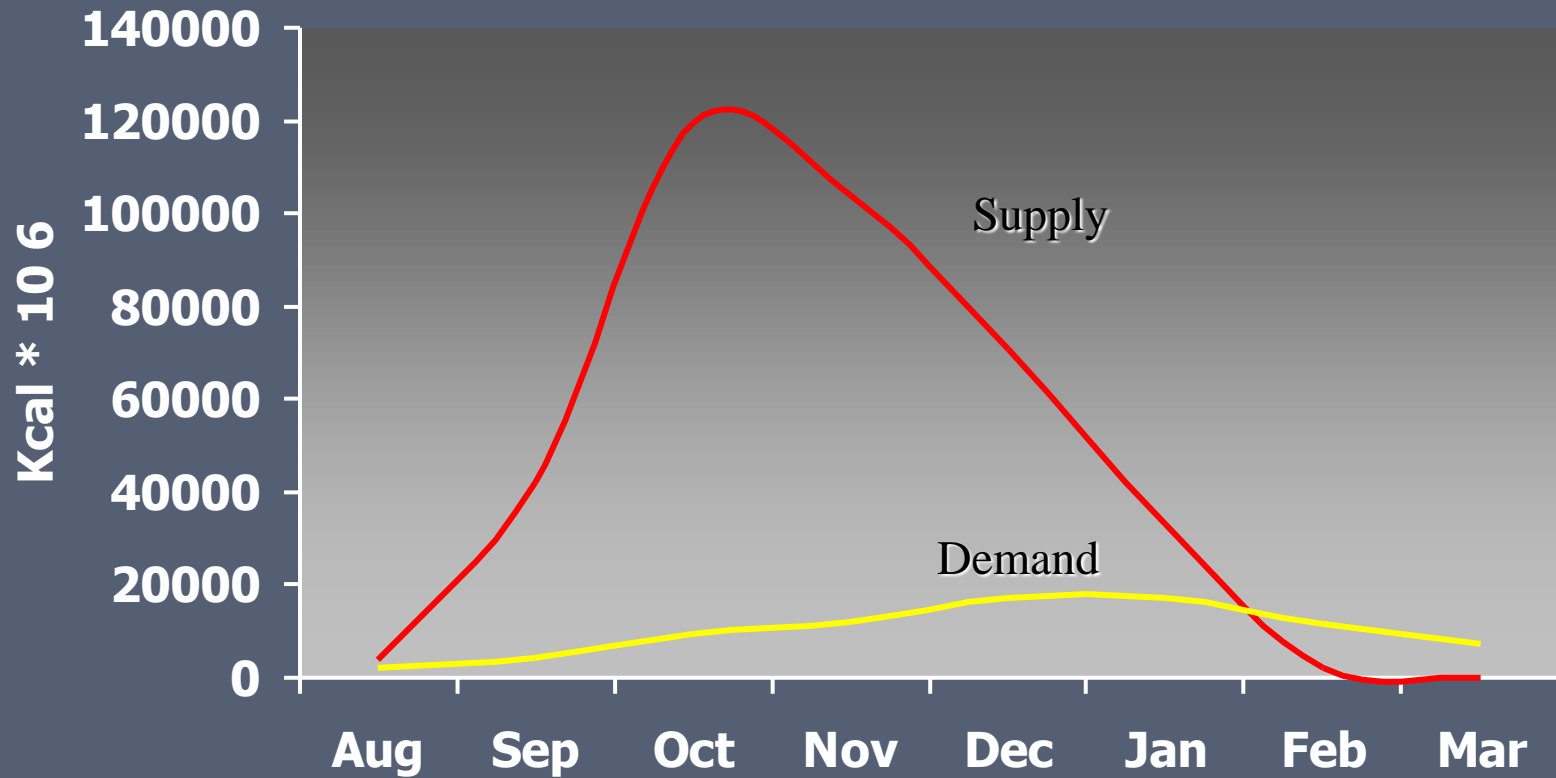




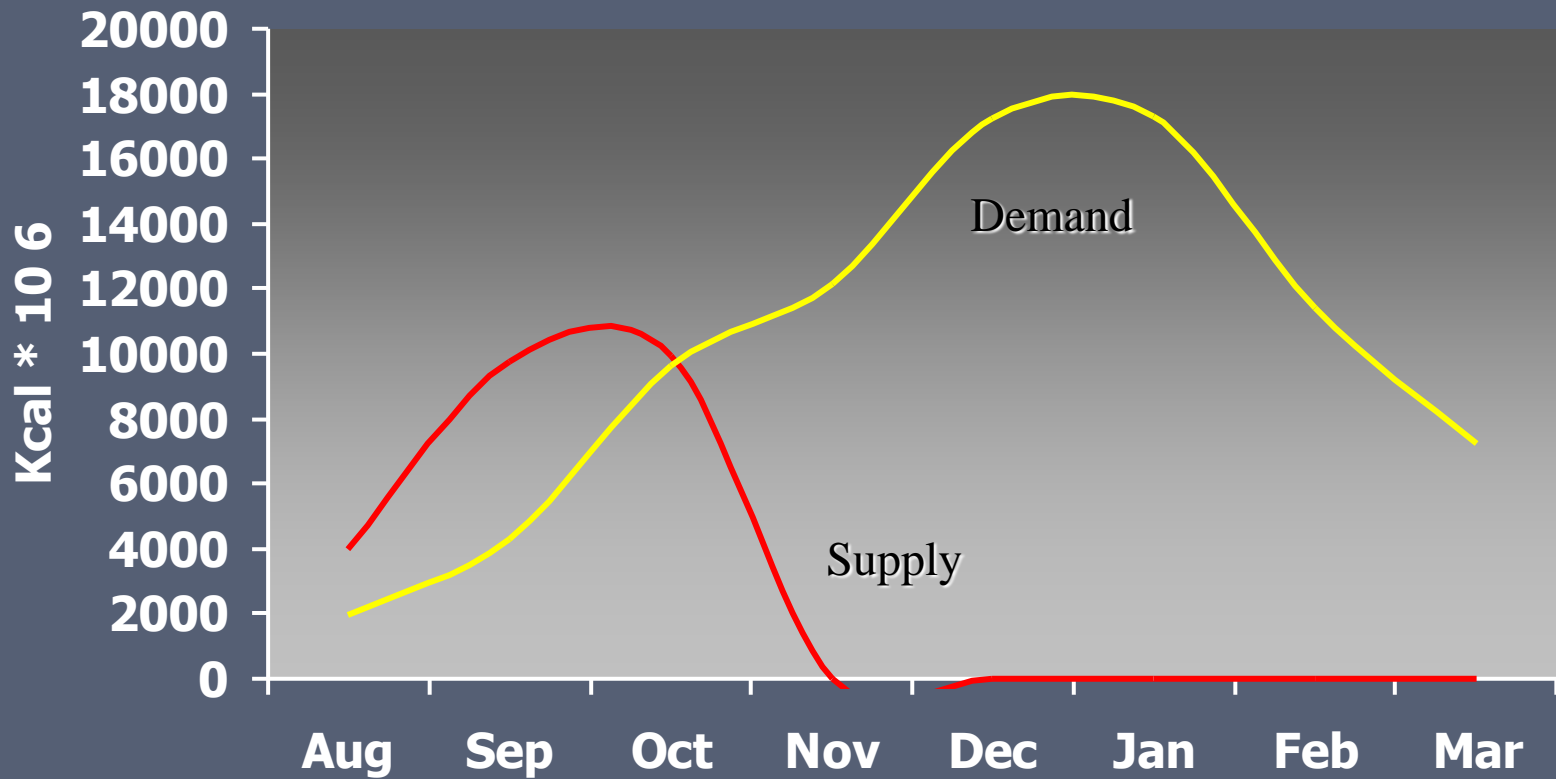
Central Valley Ducks (Current Conditions)



Central Valley Ducks (1970's)



Central Valley Ducks (Public Lands)

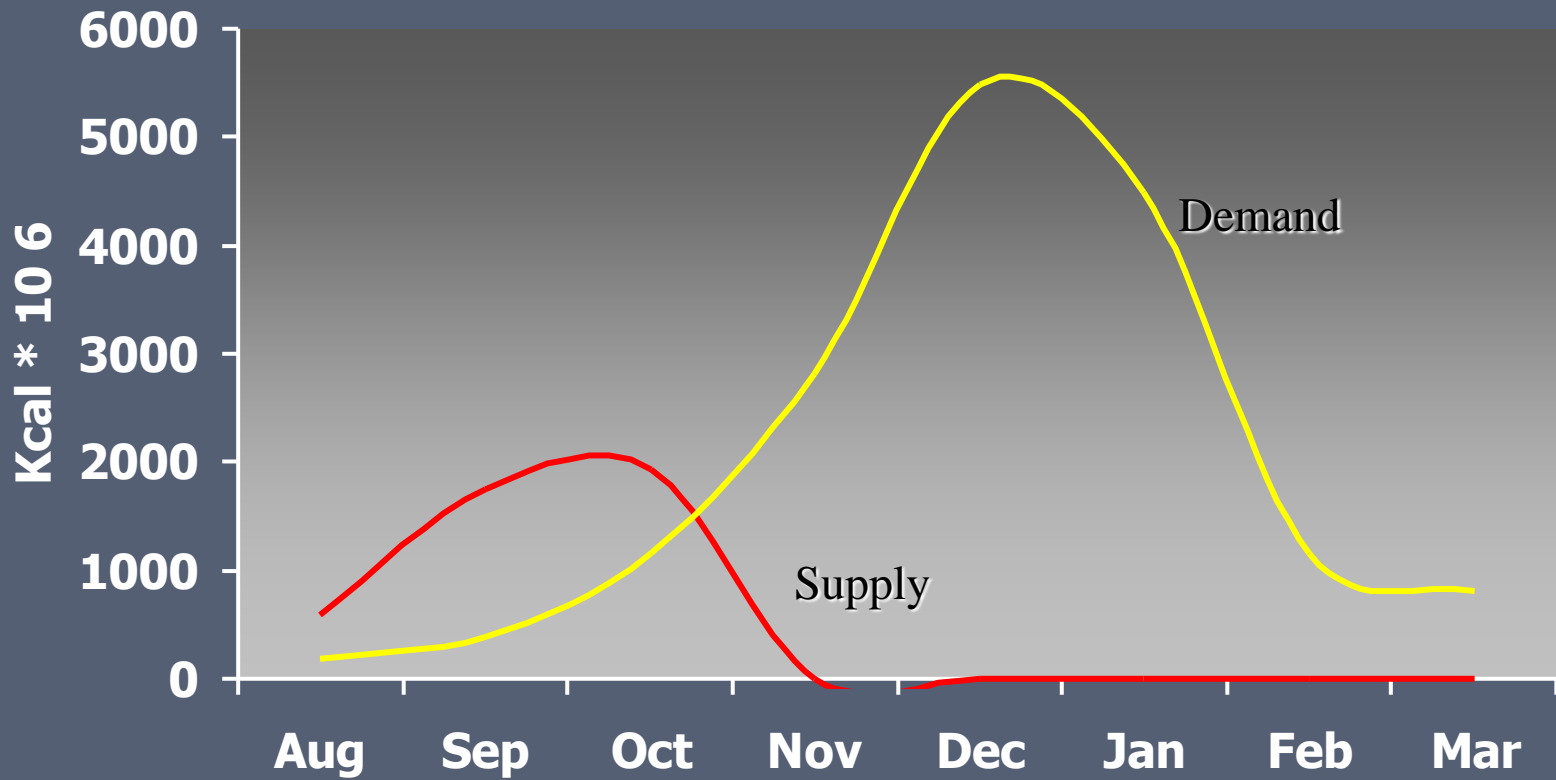


Sacramento Valley Objectives

| | |
|----------------------------|----------------------------|
| Wetland Restoration | 46,000 acres |
| Wetland Enhancement | 8,800 acres |
| Ag Enhancement | 170,000 acres |
| Total Water Need | 1,080,000 acre-feet |

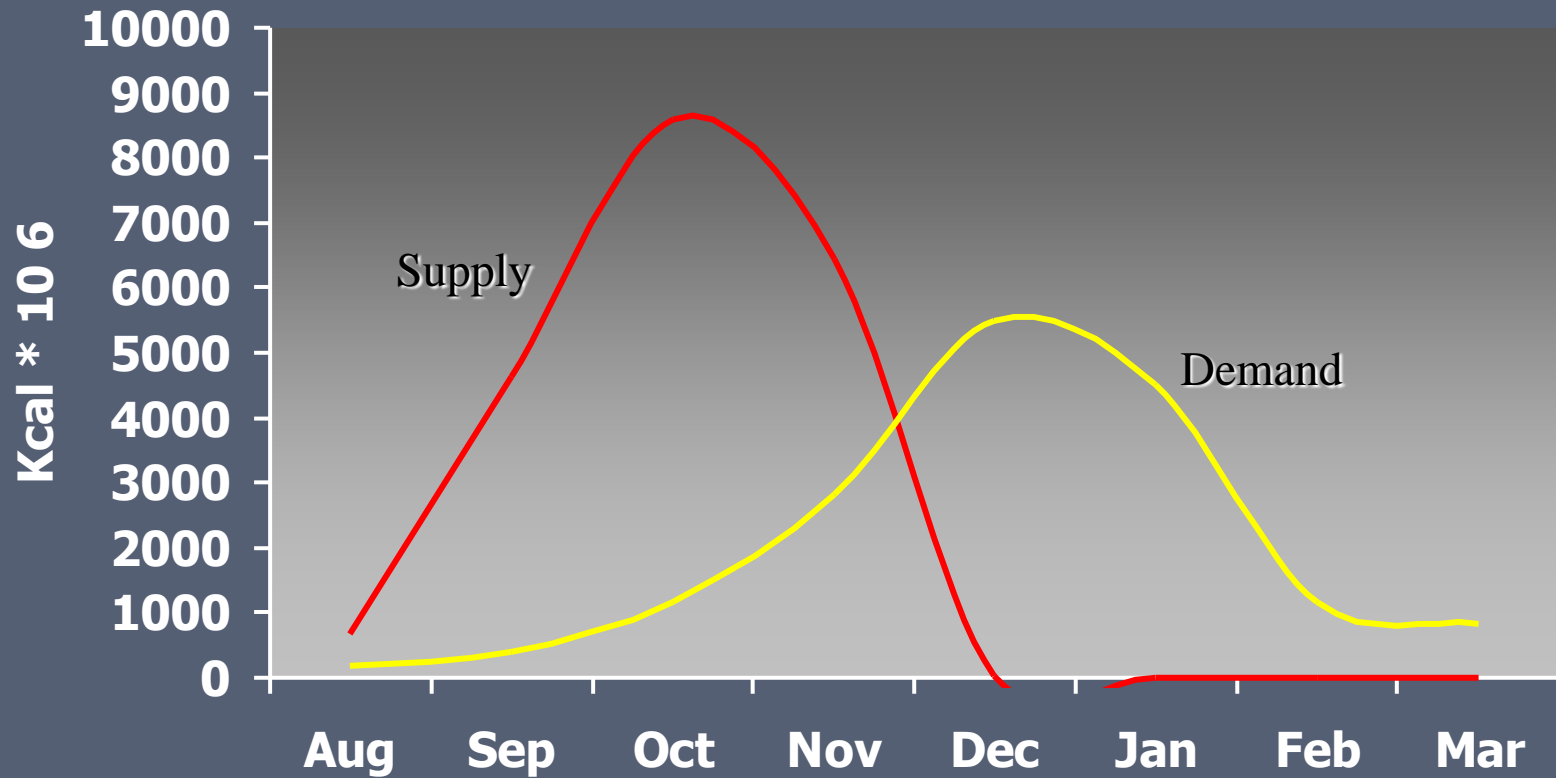
Butte Basin

Public Lands Only



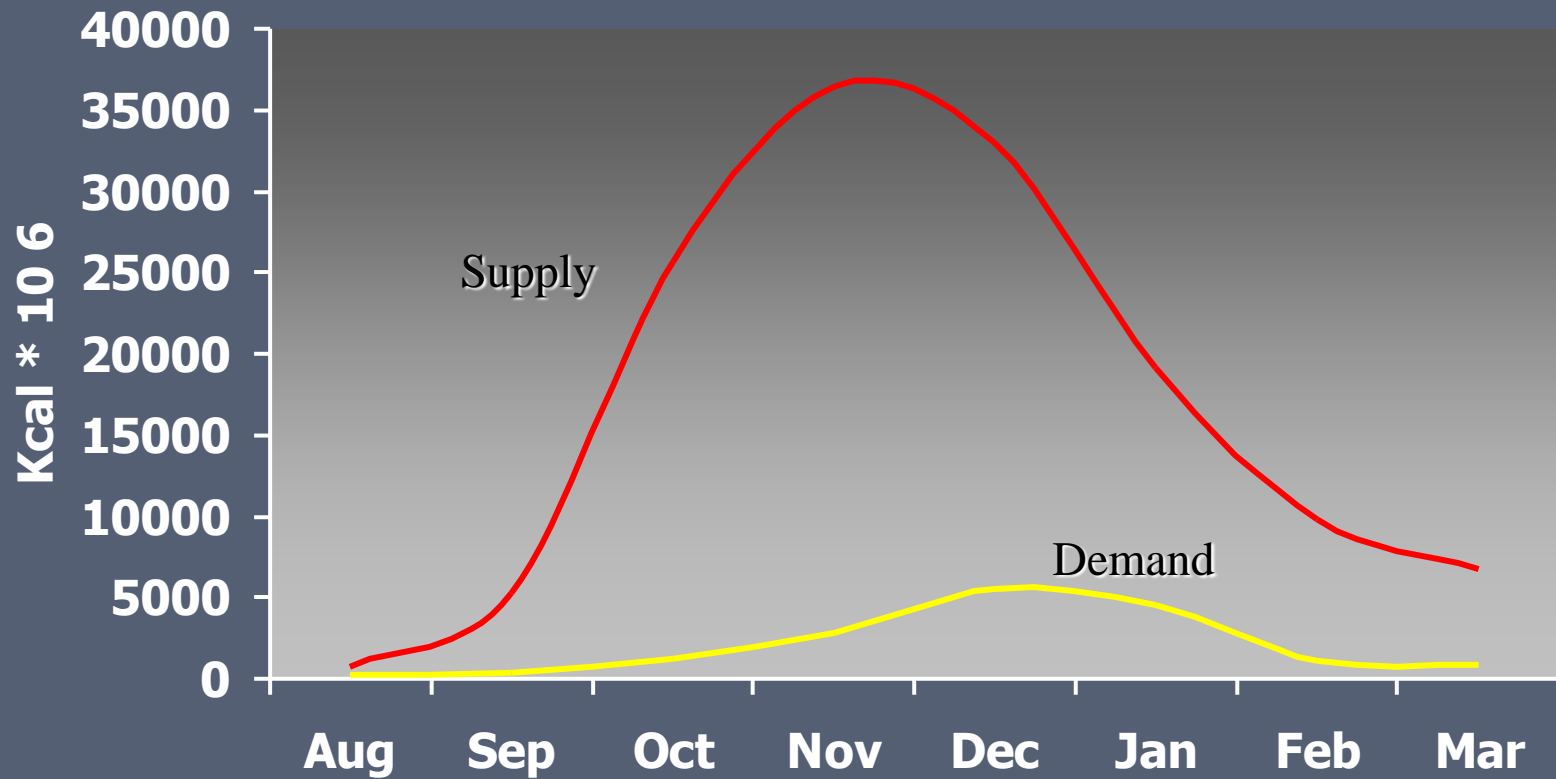
Butte Basin

No Agricultural Habitat



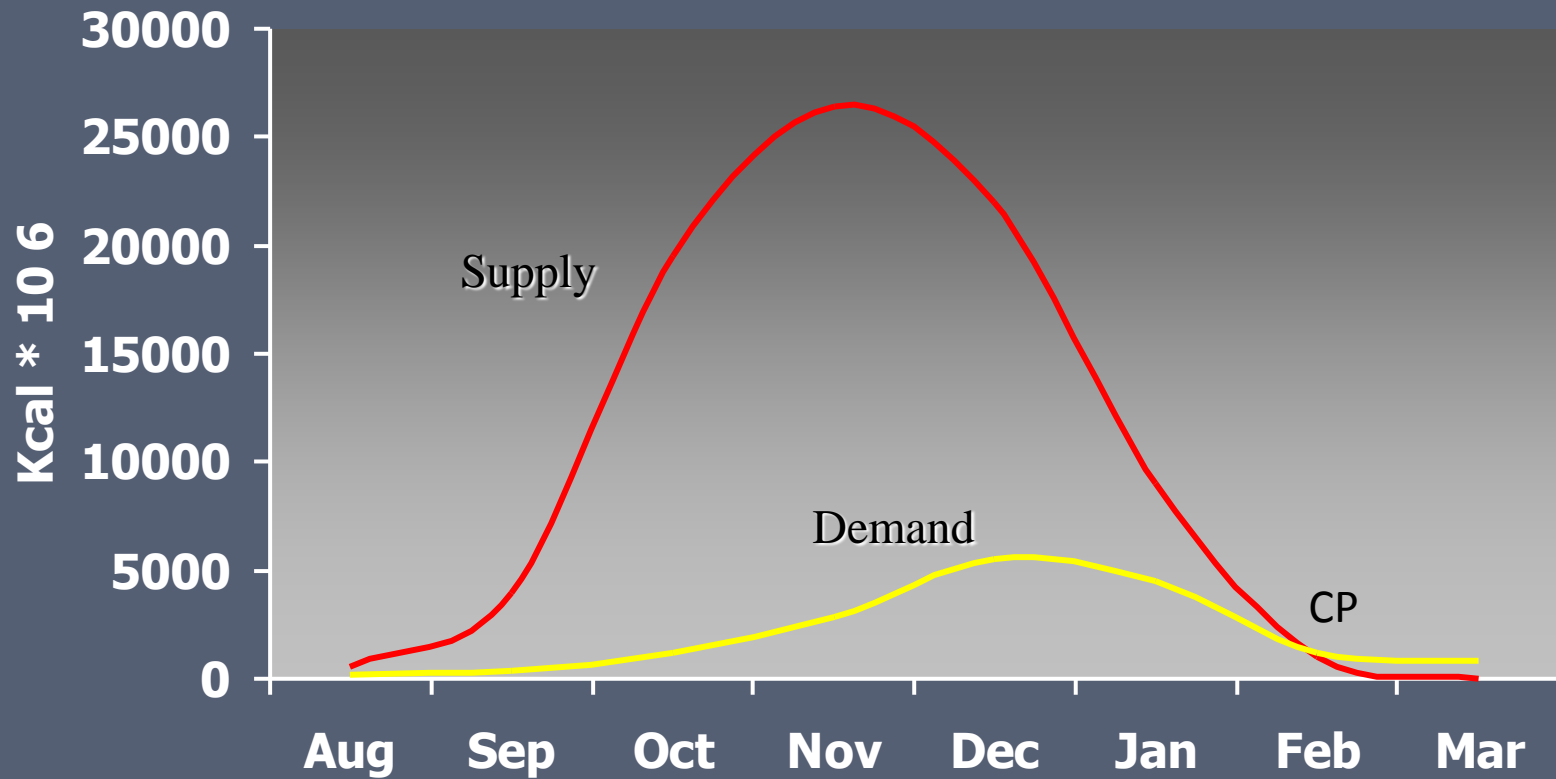
Butte Basin

Current Conditions



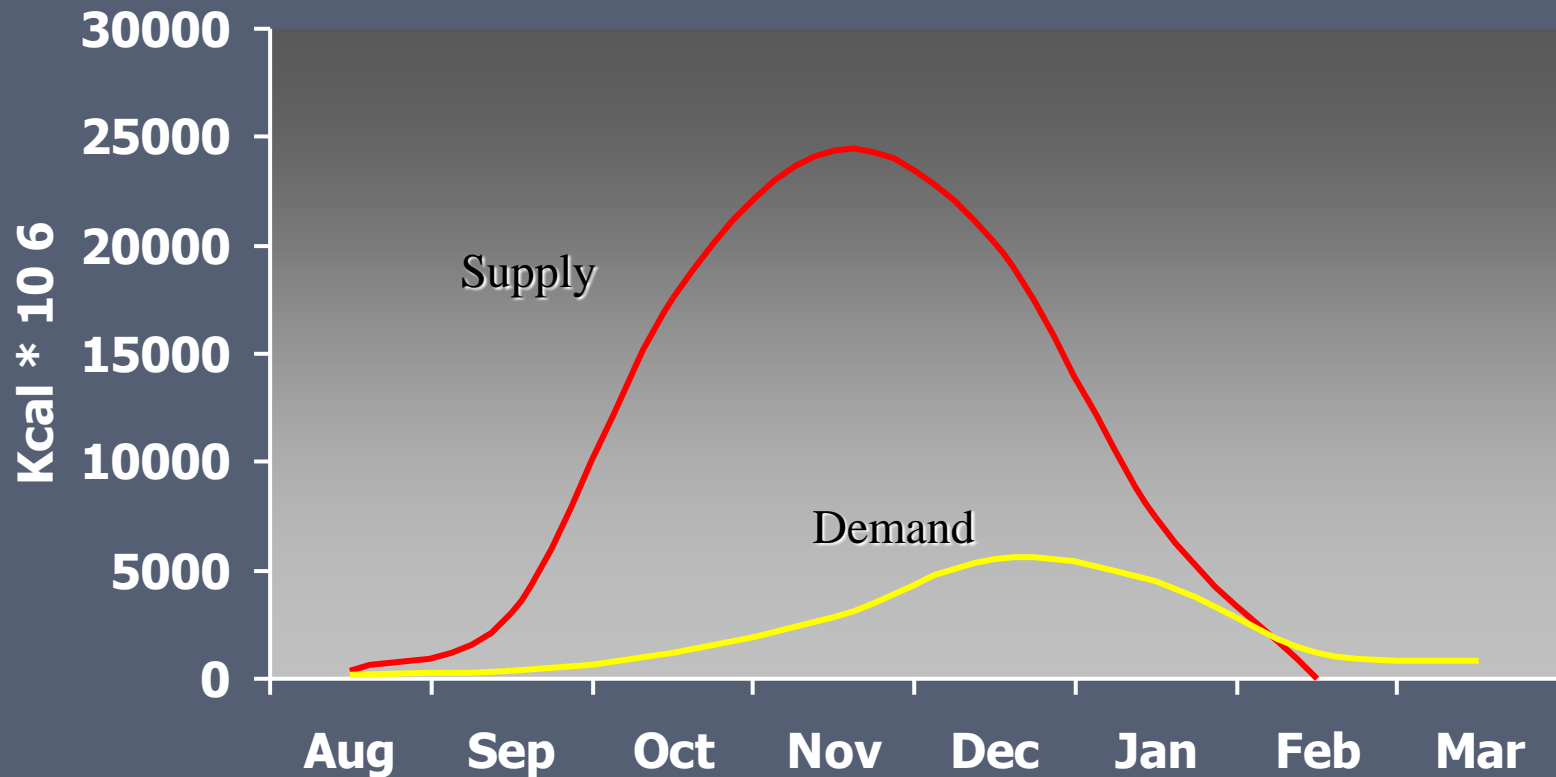
Butte Basin

25% Habitat Reduction



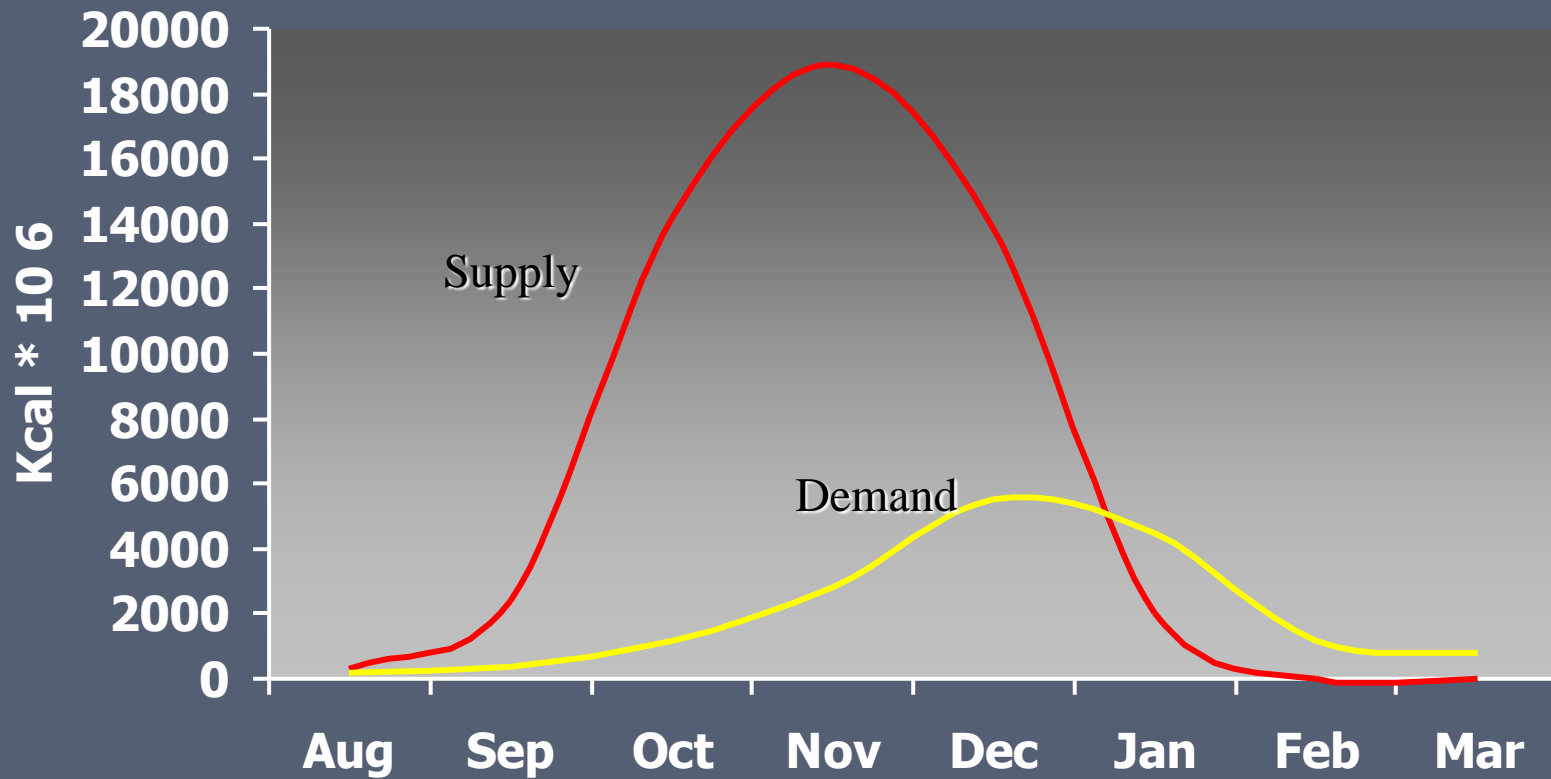
Butte Basin

25% Habitat Reduction & 25% Reduced Summer Irrigation



Butte Basin

40% Habitat Reduction & 25% Reduced Summer Irrigation

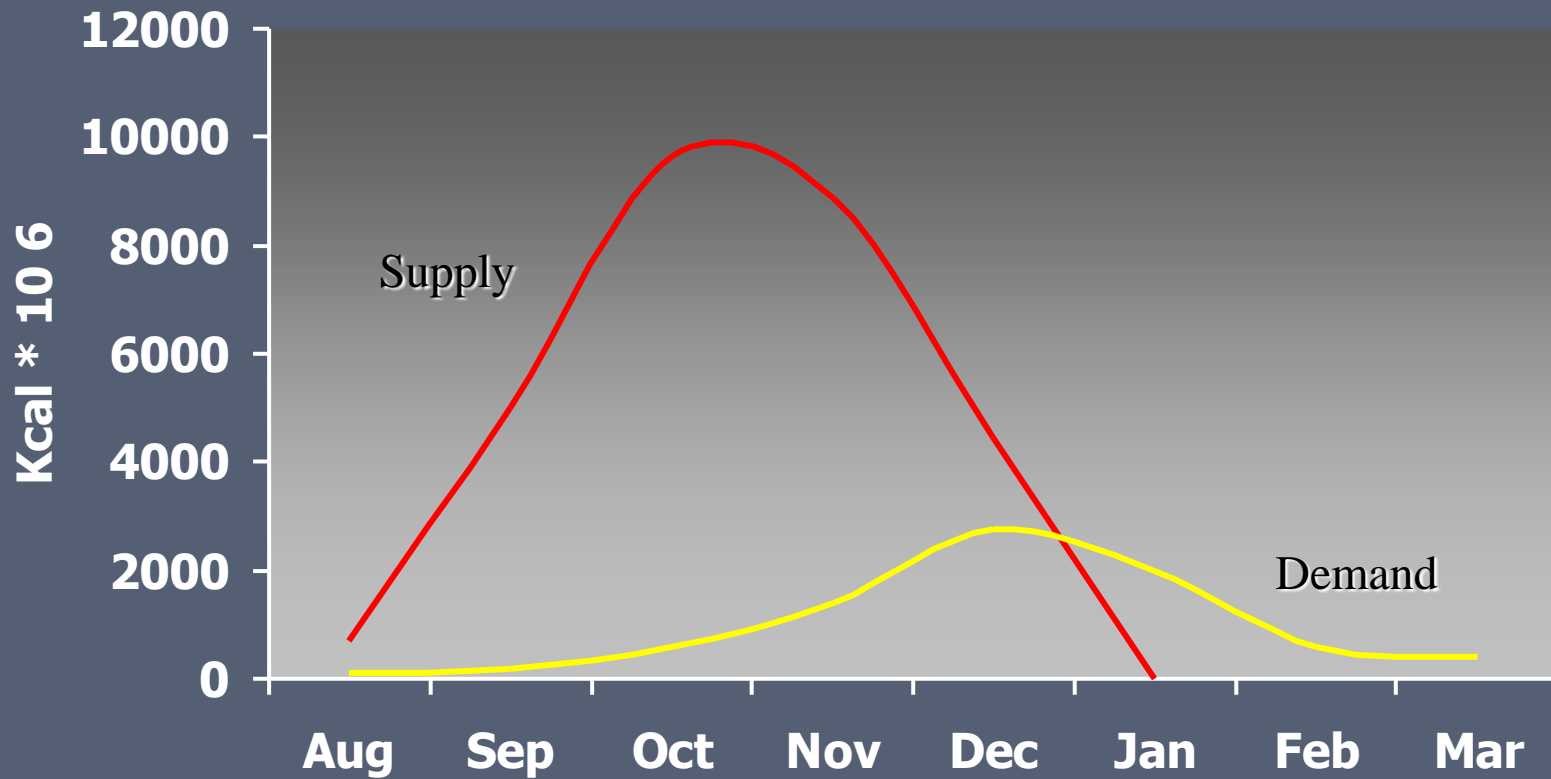


Wetland Constraint

50% of duck energy needs must be met from wetlands



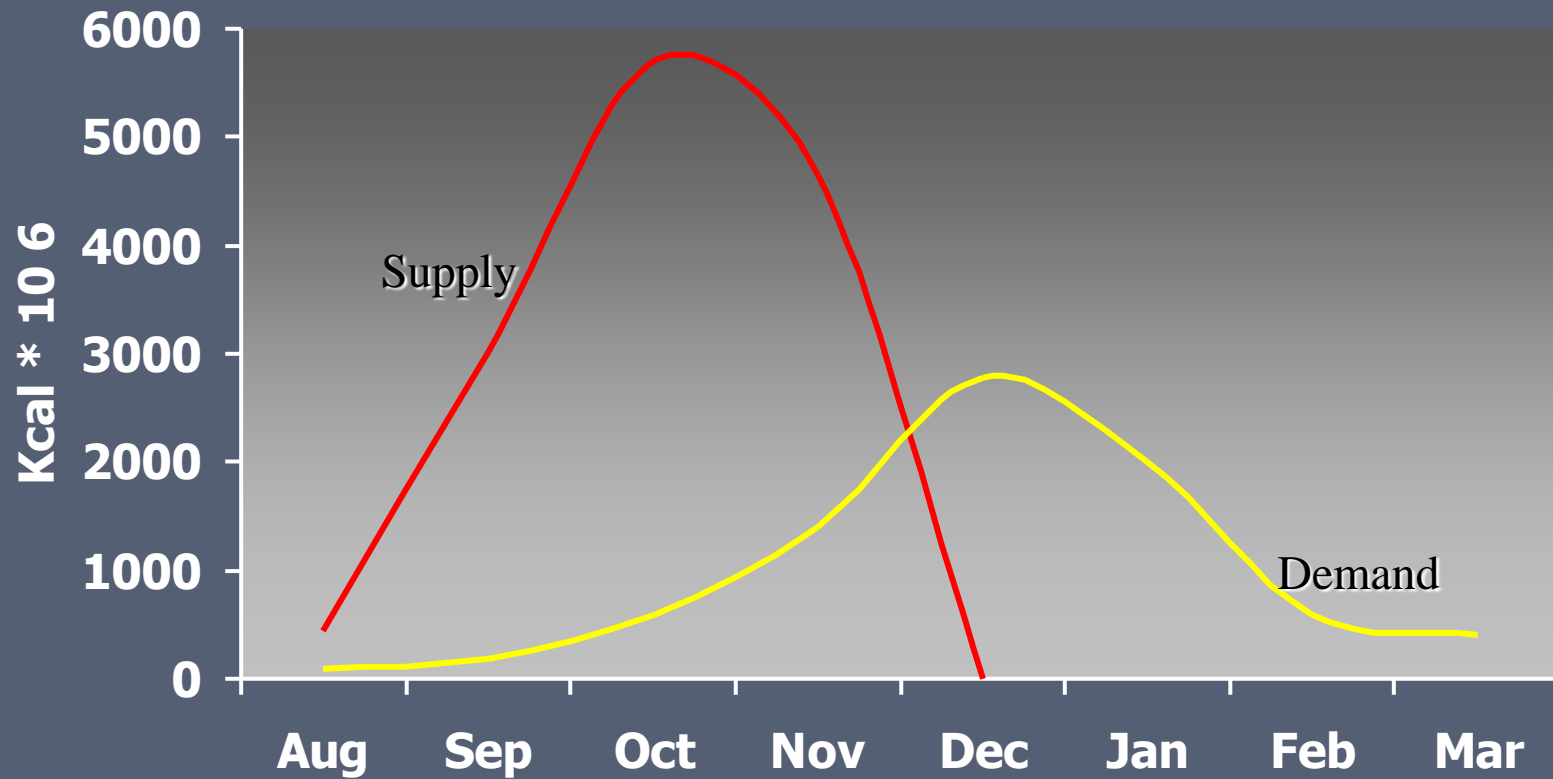
Butte Basin Wetland Requirement



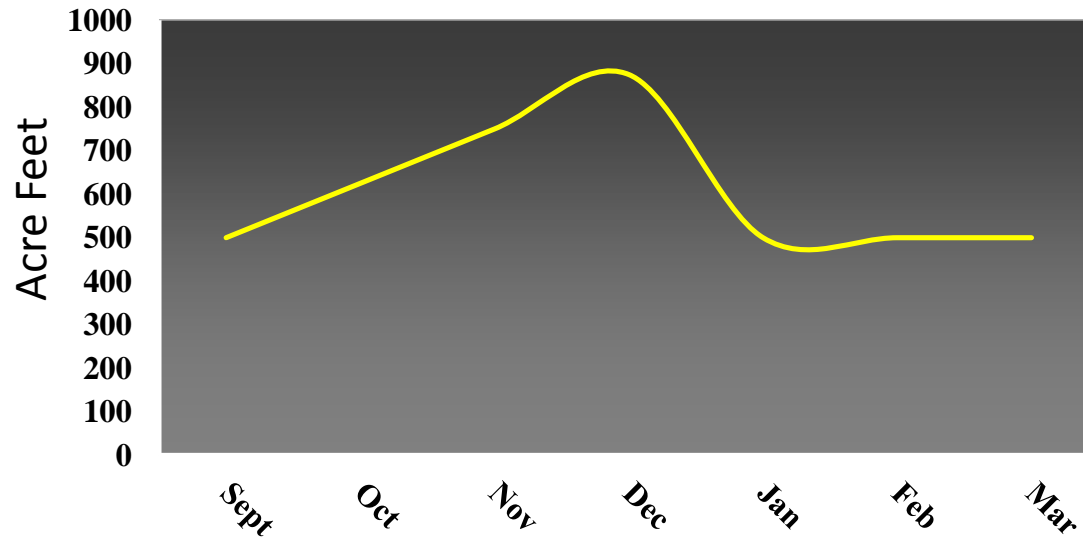
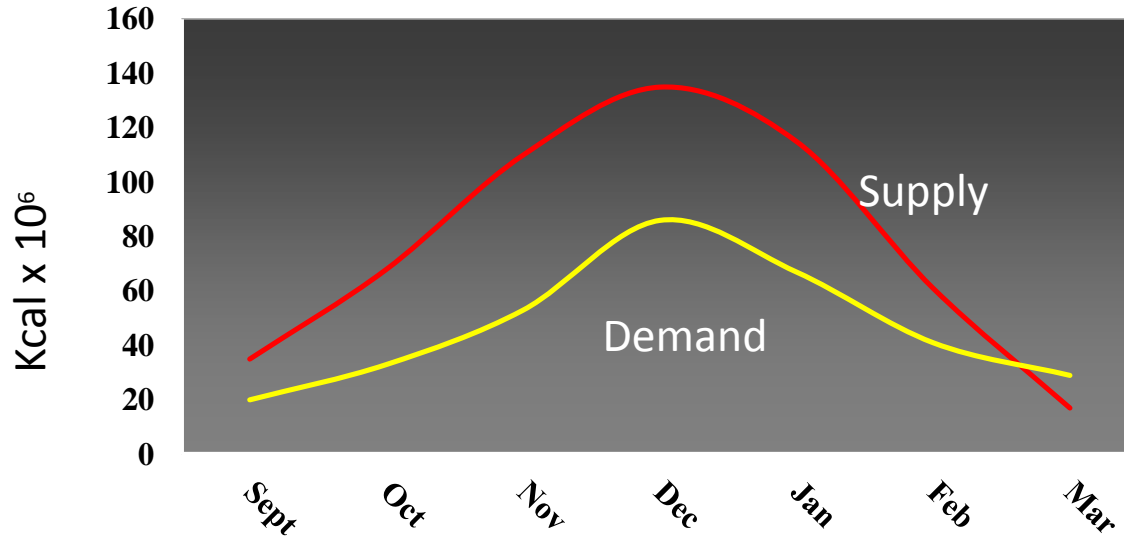
Butte Basin

Wetland Requirement

25% Habitat Reduction



UPDATED MODEL



THANK YOU