

U.S. Fish and Wildlife Service

Adaptive Harvest Management

2003 Duck Hunting Season

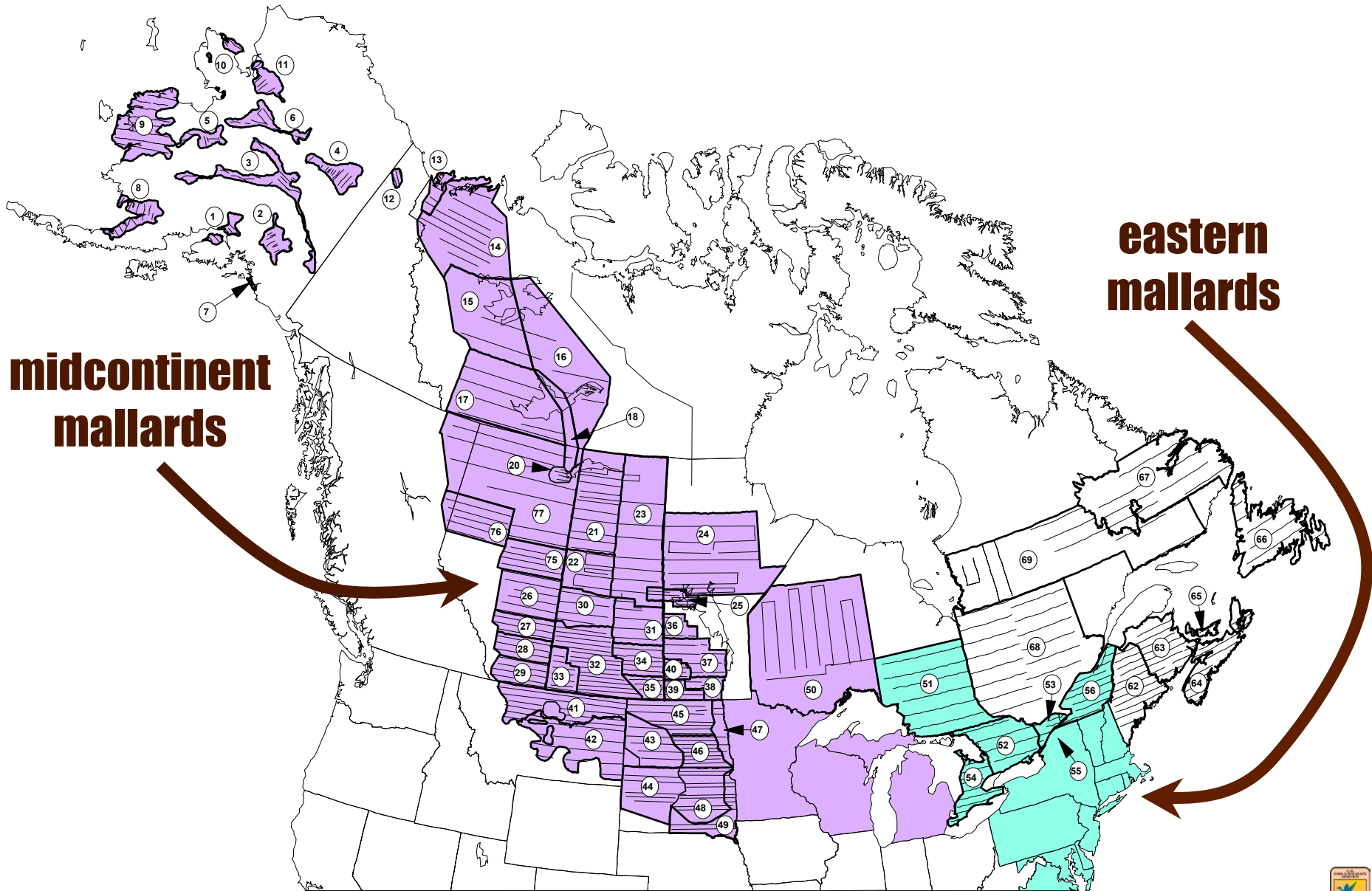


Outline

- **Mallard predictions for 2003**
- **Carry-over regulatory issues from 2002**
 - * **framework-date extensions**
 - * **regulatory constraints**
 - * **other species considerations**



Mallard predictions for 2003



Mallard predictions for 2003

Eastern	Bpop		
	N	SD(N)	Reg.
2002 (observed)	1.005	0.064	L
2003 (predicted)	0.933	0.136	L

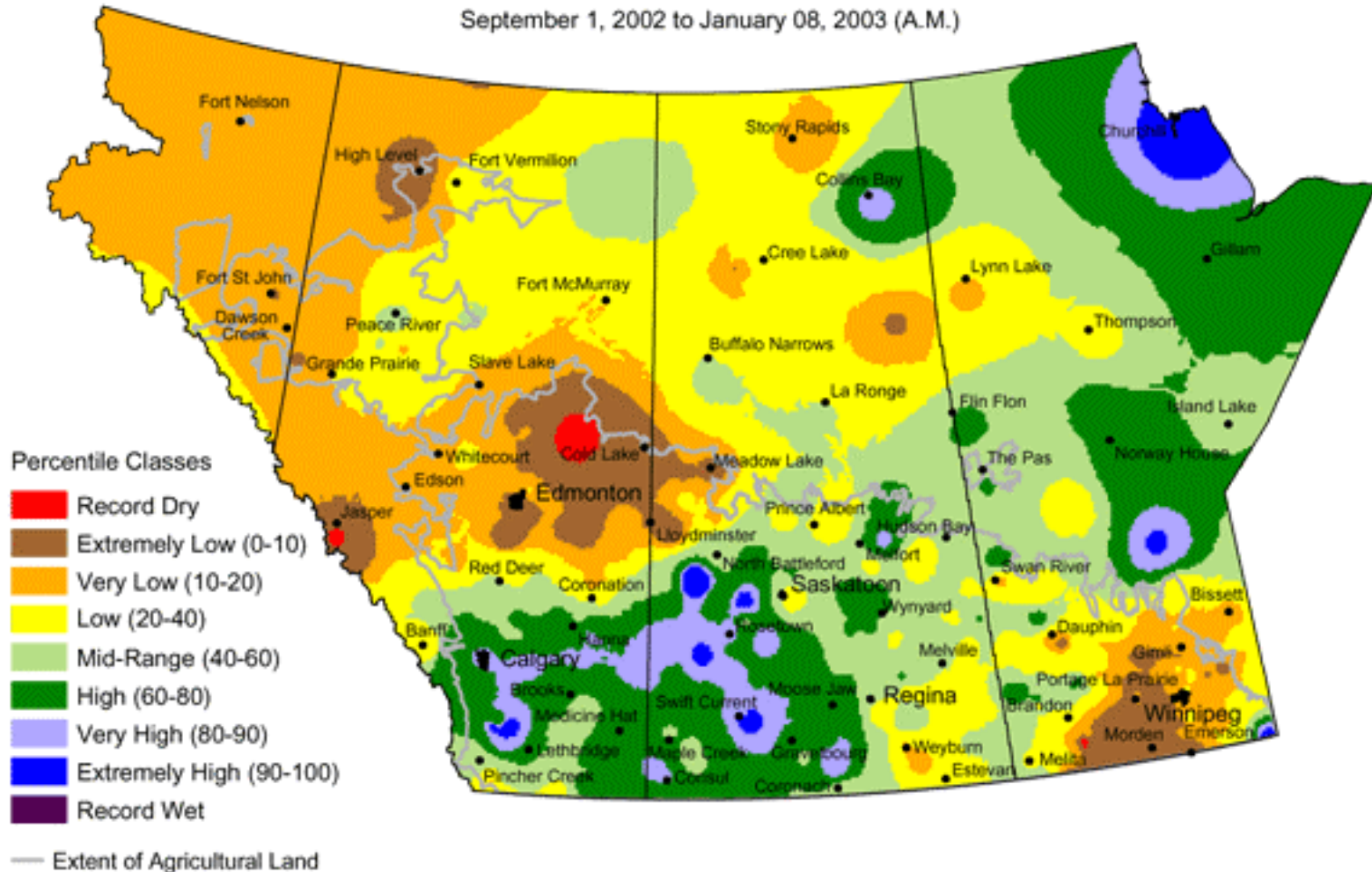
Midcontinent	Bpop		Ponds		
	N	SD(N)	N	SD(N)	Reg.
2002 (observed)	8.533	0.258	1.439	0.105	L
2003 (predicted)	7.101	1.197	2.620	1.121	R



Mallard predictions for 2003

Current Precipitation Compared to Historical Distribution

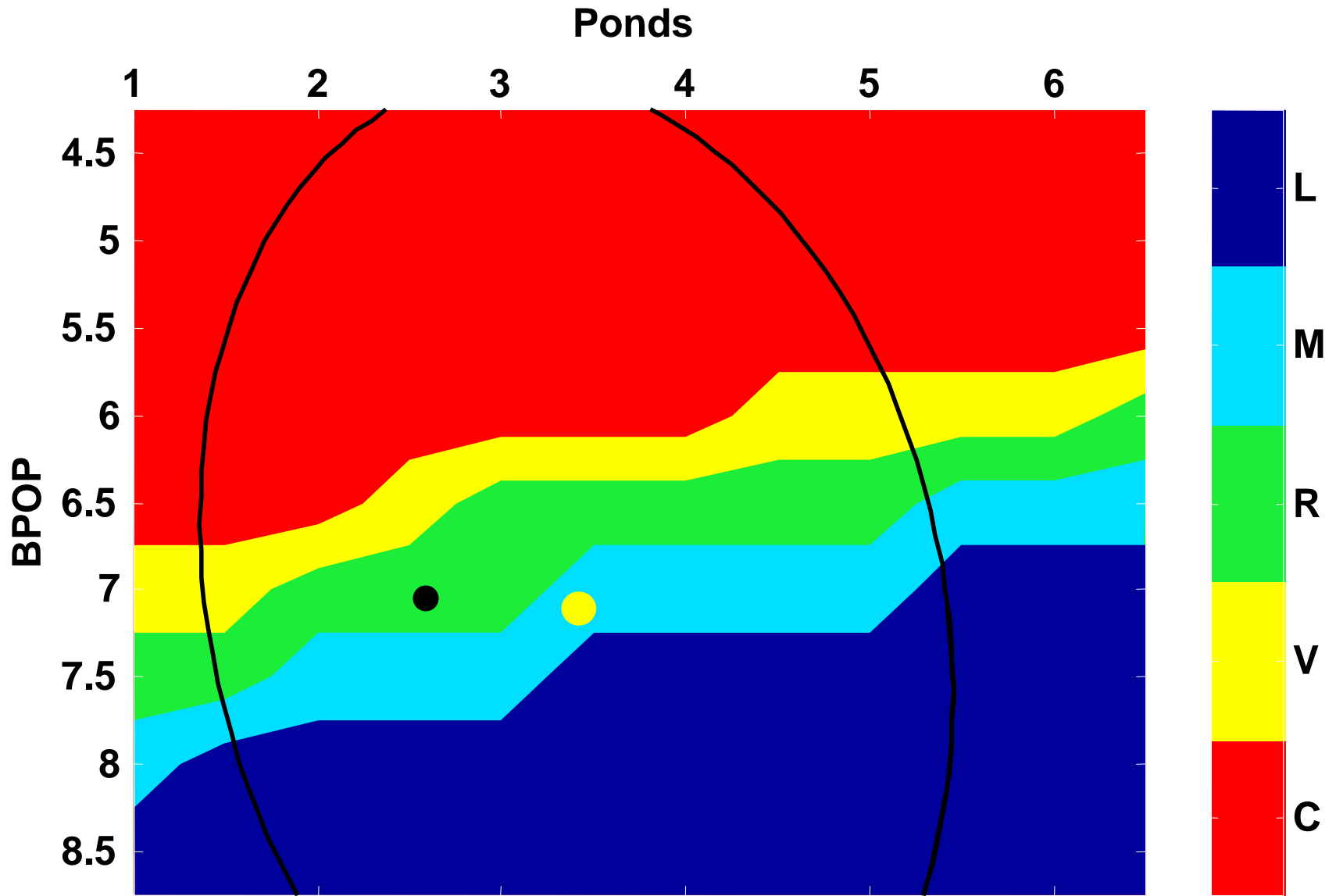
September 1, 2002 to January 08, 2003 (A.M.)



Prepared by PFRA (Prairie Farm Rehabilitation Administration) using data from the Timely Climate Monitoring Network and the many federal and provincial agencies and volunteers that support it.

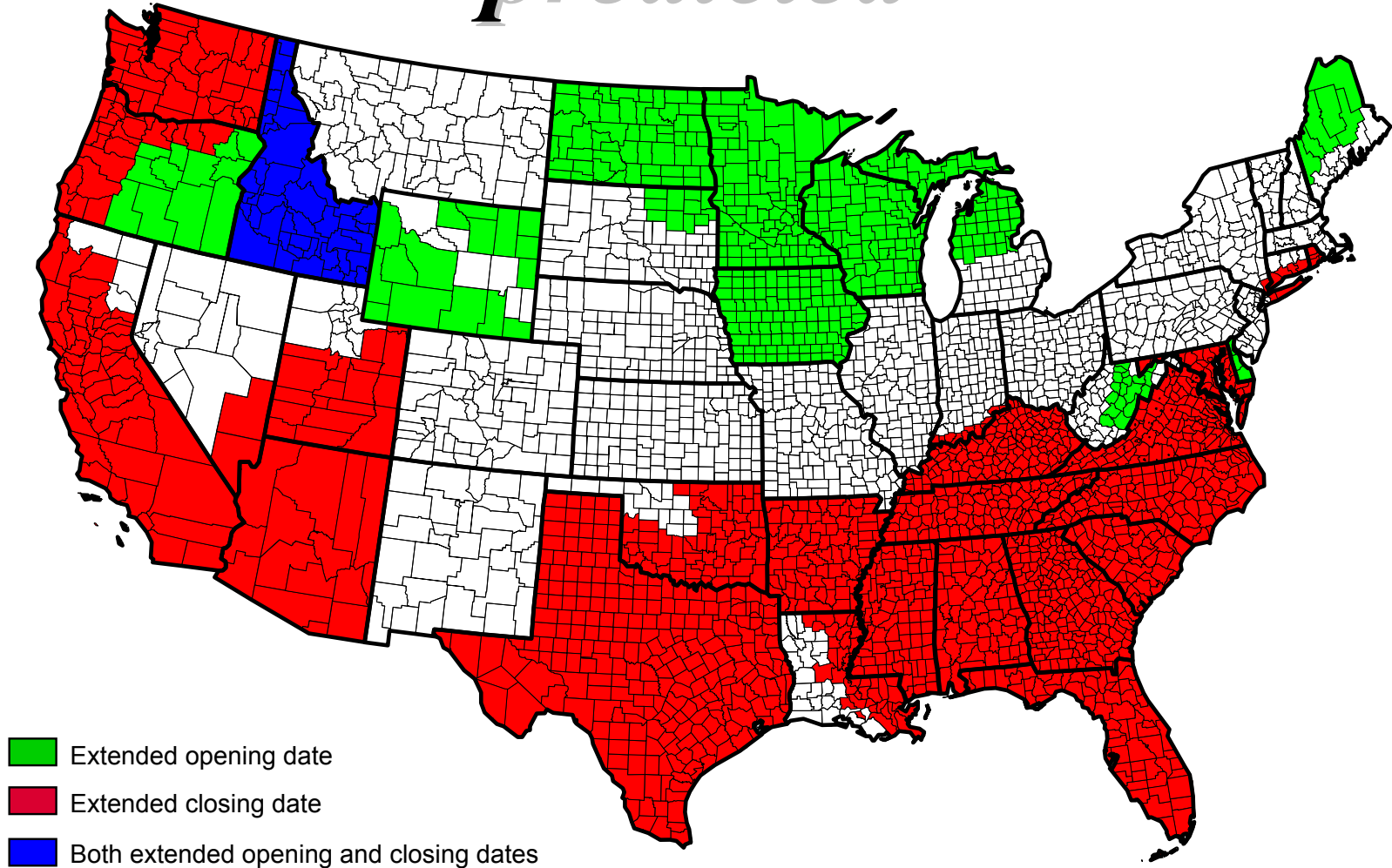


Mallard predictions for 2003



Carry-over issues: *framework dates*

predicted

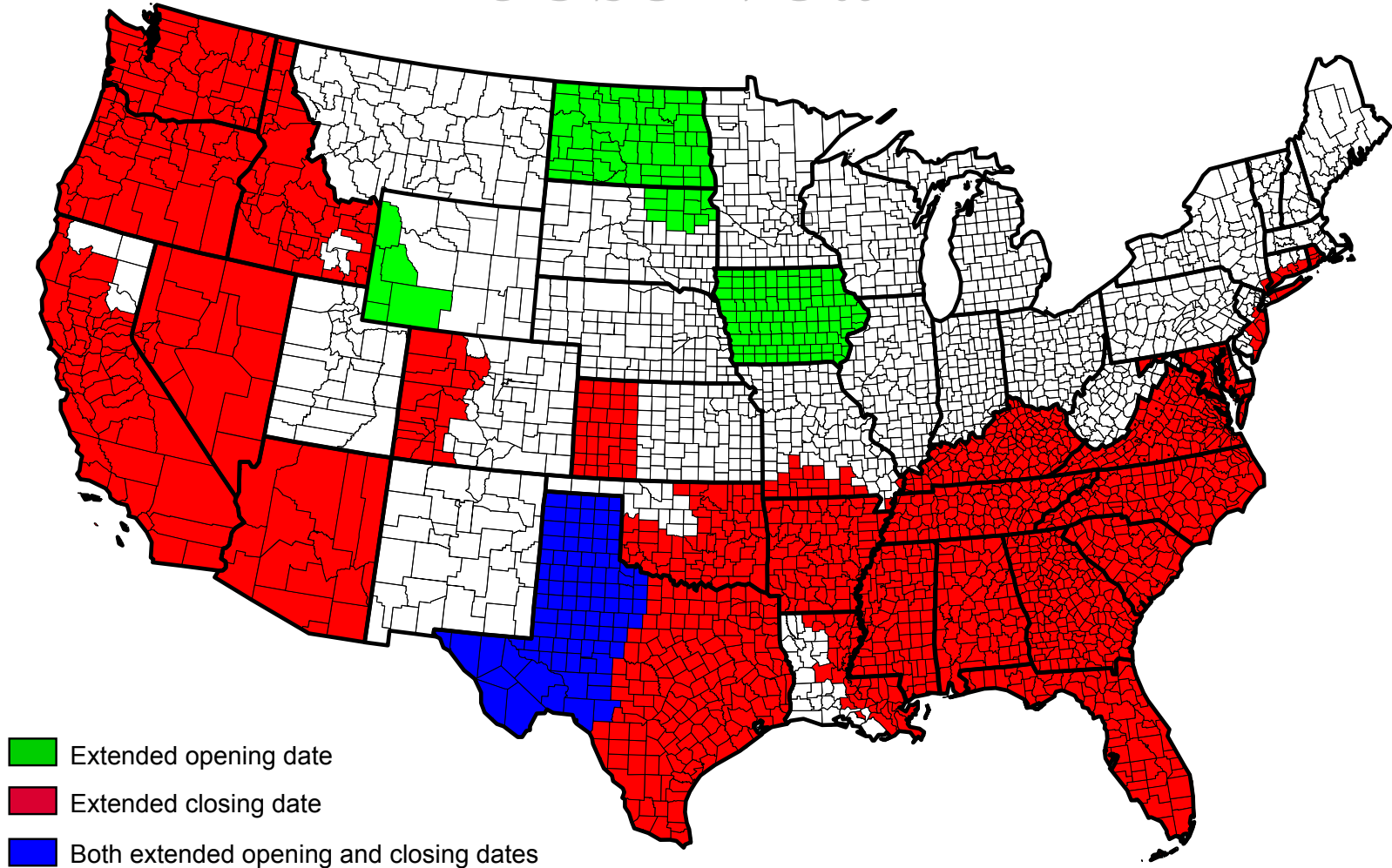


Harvest rate changes: midcontinent mallards +15%; eastern +5%



Carry-over issues: *framework dates*

observed



Harvest rate changes: midcontinent mallards ? eastern ?



Carry-over issues: *regulatory alternatives*

Regulation	Flyway			
	Atlantic ^a	Mississippi	Central ^b	Pacific ^c
Shooting hours	one-half hour before sunrise to sunset			
Framework dates				
Very restrictive and Restrictive	Oct 1 - Jan 20	Saturday nearest Oct 1 - Sunday nearest Jan 20		
Moderate and Liberal		Saturday nearest Sep 24 - last Sunday in Jan		
Season length (days)				
Very restrictive	20	20	25	38
Restrictive	30	30	39	60
Moderate	45	45	60	86
Liberal	60	60	74	107
Bag limit (total / mallard / female mallard)				
Very restrictive	3 / 3 / 1	3 / 2 / 1	3 / 3 / 1	4 / 3 / 1
Restrictive	3 / 3 / 1	3 / 2 / 1	3 / 3 / 1	4 / 3 / 1
Moderate	6 / 4 / 2	6 / 4 / 1	6 / 5 / 1	7 / 5 / 2
Liberal	6 / 4 / 2	6 / 4 / 2	6 / 5 / 2	7 / 7 / 2

• **No closed season when bpop > 5.5m**

• **No VR alternative**

• **Only one-step changes between years**

^a The states of Maine, Massachusetts, Connecticut, Pennsylvania, New Jersey, Maryland, Delaware, West Virginia, Virginia, and North Carolina are permitted to exclude Sundays, which are closed to hunting, from their total allotment of season days.

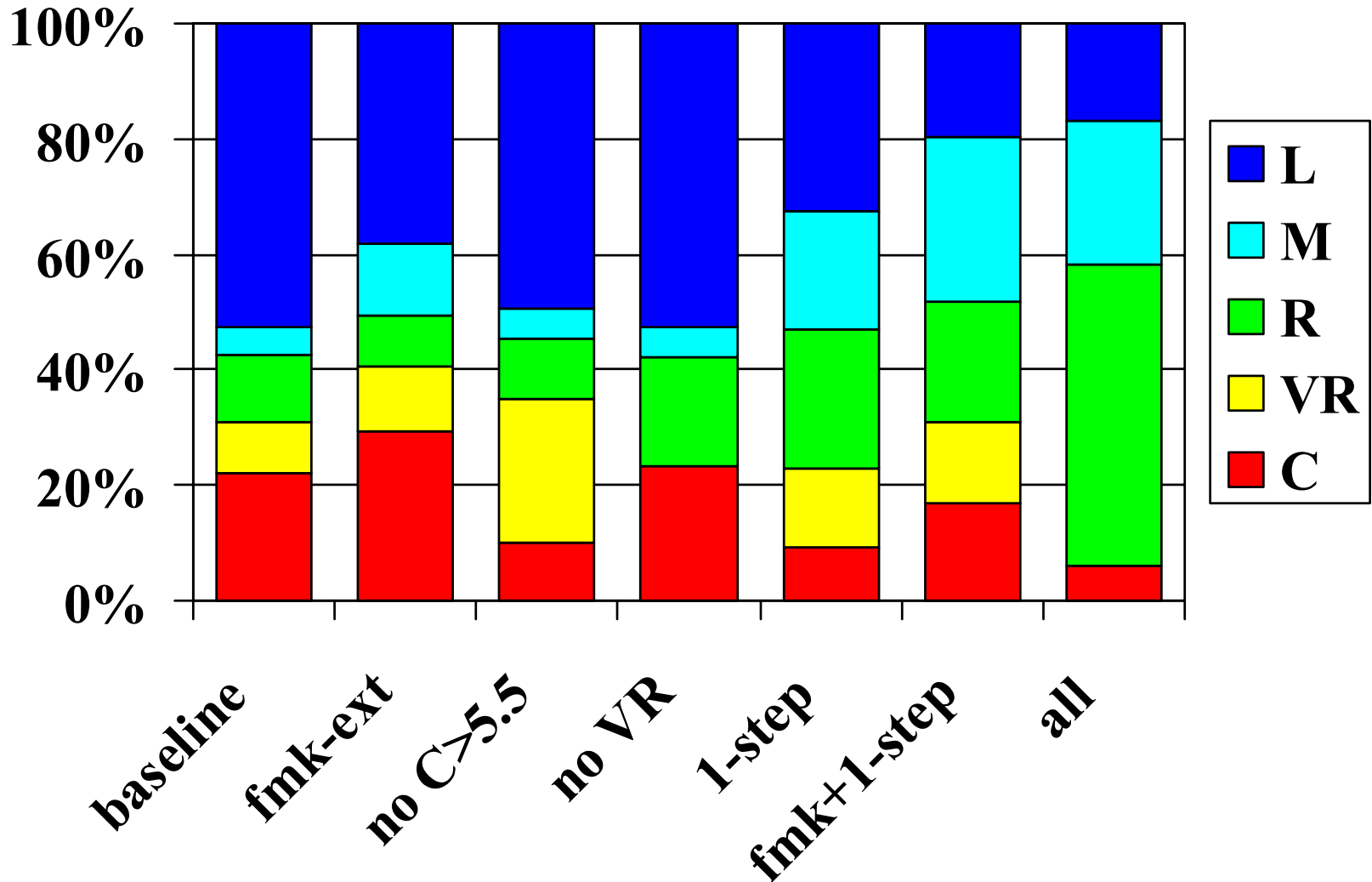
^b The High Plains Mallard Management Unit is allowed 8, 12, 23, and 23 extra days in the very restrictive, restrictive, moderate, and liberal alternatives, respectively.

^c The Columbia Basin Mallard Management Unit is allowed seven extra days in the very restrictive, restrictive, and moderate alternatives.



Carry-over issues: *regulatory alternatives*

Expected frequency of regulations under different scenarios...



Carry-over issues: *species impacts*

The Problem of Scale in Adaptive Harvest Management: Alternatives for Recognizing Stock-Specific Variation in Harvest Potential

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Introduction

Since its inception, the Adaptive Harvest Management (AHM) program has focused on the population dynamics and harvest potential of mallards, primarily those breeding in midcontinent North America. Midcontinent mallards constitute a large portion of the total U.S. duck harvest and traditionally have been a reliable indicator of the status of many other species. However, not all duck stocks (i.e., species and populations) have the same potential as midcontinent mallards to support harvest. Moreover, in recent years there has been a growing disparity between midcontinent mallards and some duck stocks in population status. Therefore, the purpose of this document is to describe possible approaches for explicitly recognizing the differences in the ability of various duck stocks to support sustainable levels of harvest. To facilitate understanding and discussion, several conceptual alternatives for incorporating multiple species and Flyway-specific regulatory choices in the decision-making protocols for AHM are provided.

We begin by framing this discussion in terms of the larger strategic issue of management scale, which involves two related questions:

How does the harvest potential of ducks (i.e., the ability of ducks to support sustainable harvests) vary over time, space, and with level of ecological organization (e.g., population or species)?

How should managers promulgate regulations in light of these differences to best address harvest-management goals, objectives, and constraints?

The answer to the first question can be derived solely from the application of biological science, while the answer to the second depends on how the public values duck abundance, the magnitude and distribution of hunting opportunity, and the complexity of hunting regulations (as well as the inevitable and difficult tradeoffs among them).

Not surprisingly, the appropriate scalar resolution of duck harvest management has been debated for decades, and it was a dominant theme of the last environmental impact statement on migratory bird hunting (U.S. Fish and Wildlife Service 1988). A comprehensive solution remains elusive, however, not just because of the complexity and uncertainty in ecological systems, but because of continuing ambiguity in the social values and tradeoffs that are inherent in harvest management. We expect that

Alternative A:

-focus: mallards
-goal: maximize mallard harvest, while avoiding seasons that push other species below NAWMP goals
-independent seasons: ≥ 1

Alternative B:

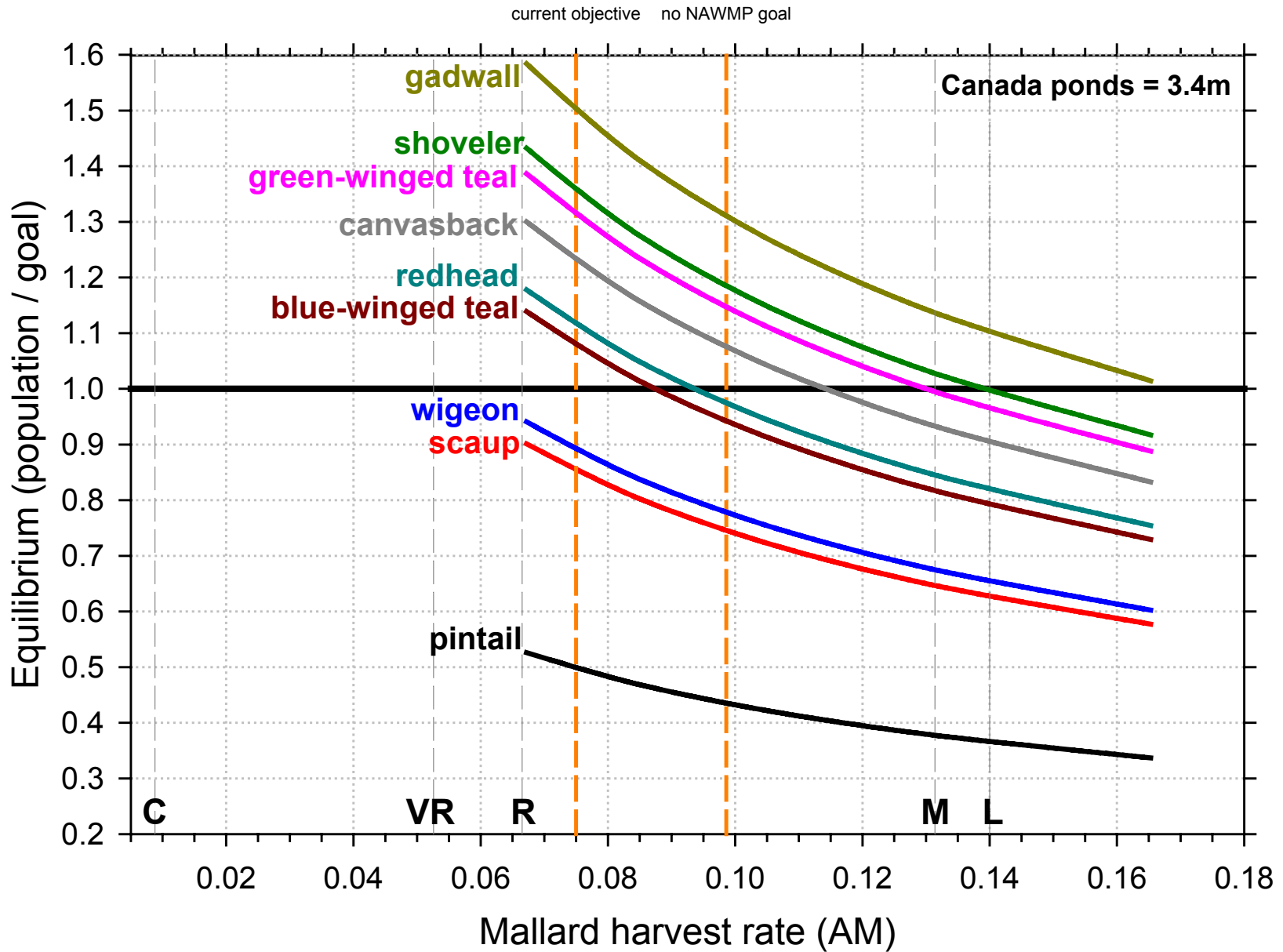
-focus: species' guilds
-goal: maximize duck harvest in the aggregate
-independent seasons: 2

Alternative C:

-focus: "least common denominator"
-goal: maximize LCD harvest
-independent seasons: 1



Carry-over issues: *species impacts*



Summary

- expect declines in both eastern (-7%) and midcontinent mallard (-16%) bpops in 2003; forecast is for Restrictive regulation in 3 western Flyways
- framework-date extensions: mallard harvest rates predicted to increase by 5% and 15% for eastern and midcontinent mallards, respectively, but some differences in expected & observed use (especially early extensions)
- constraints on regulatory alternatives affect their expected frequency of application, but appear to have little effect on avg. population size & harvest; 1-step constraint effectively reduces variability in annual regs (fewer C & L)
- multi-species AHM: discussion of strategic direction just beginning; NAWMP goal for midcontinent mallard AHM appears to provide adequate protection for other midcontinent species (notable exceptions are pintails & perhaps scaup)

