



# PIT Tag Information System

Columbia Basin

## Providing basic infrastructure for the Columbia Basin PIT Tag Program

August 10, 2005





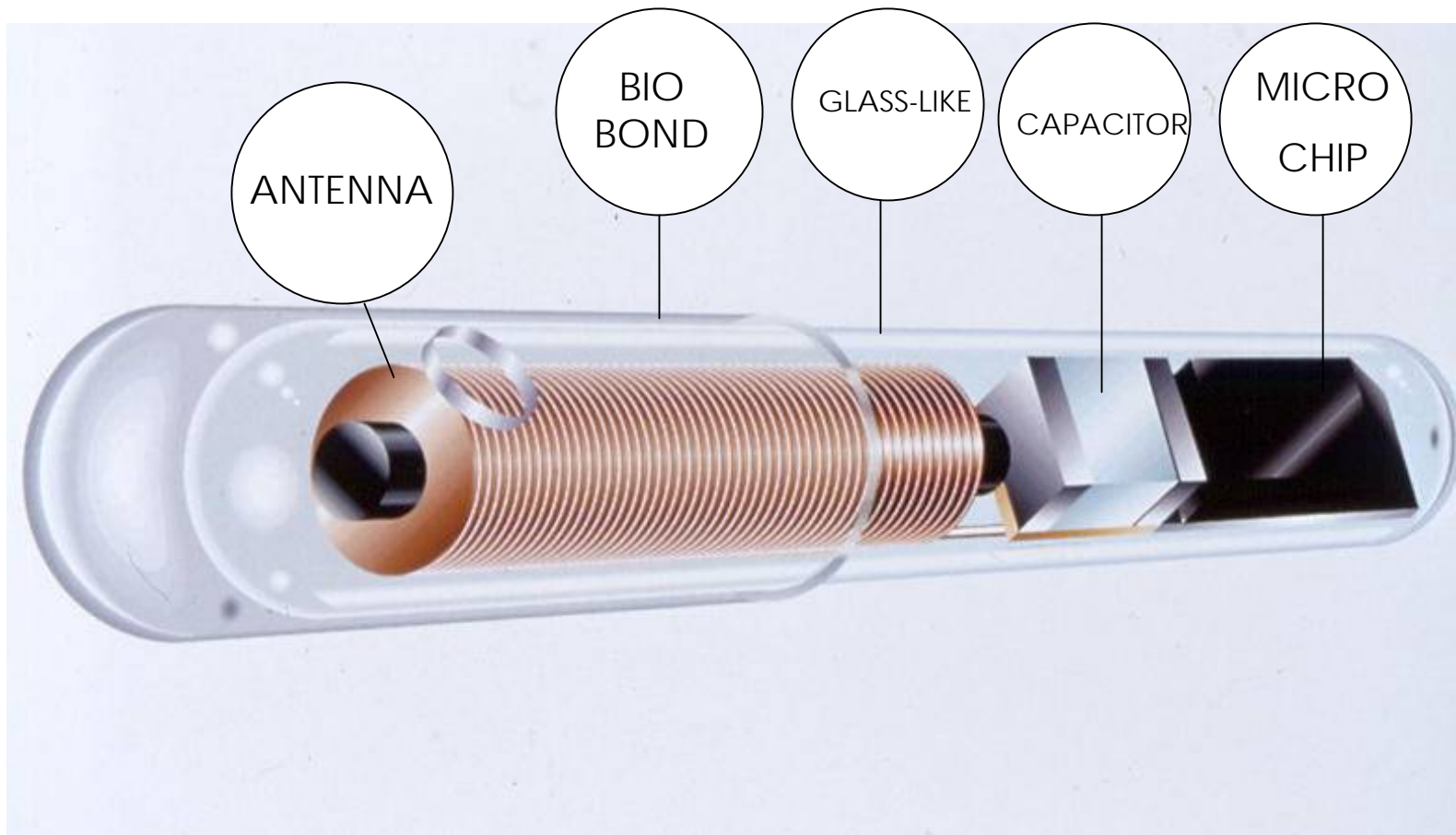
## PTAGIS Presentation Outline

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- The Existing Detection and Data Management System
  - Passive Integrated Transponder Overview
  - PTAGIS Project Overview
  - PTAGIS Trends

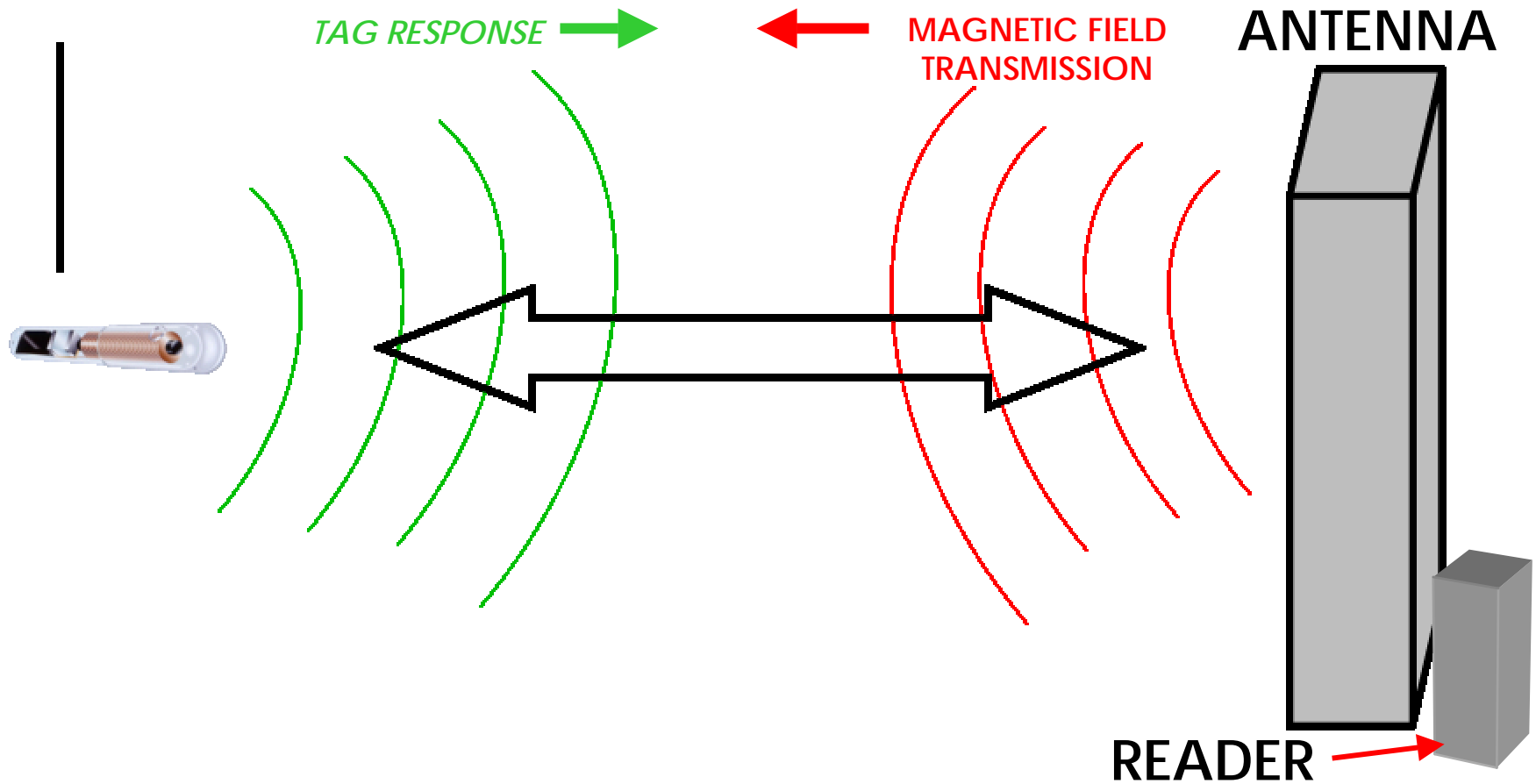


## What is a PIT Tag?





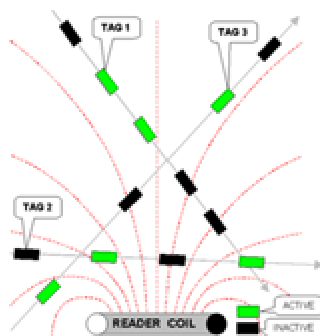
## RFID – Main System Elements



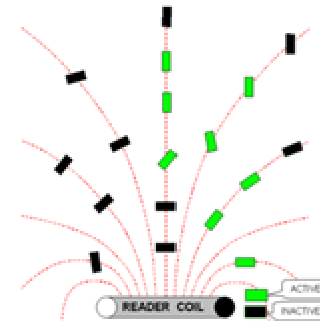


## Limitations of the Technology (ISO 11784/5 – 134.2kHz)

Tag Density

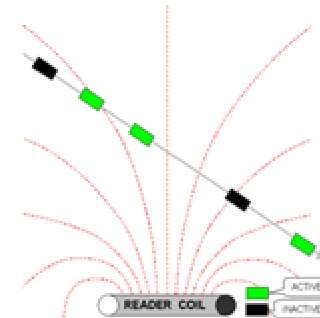


Read Range / Orientation



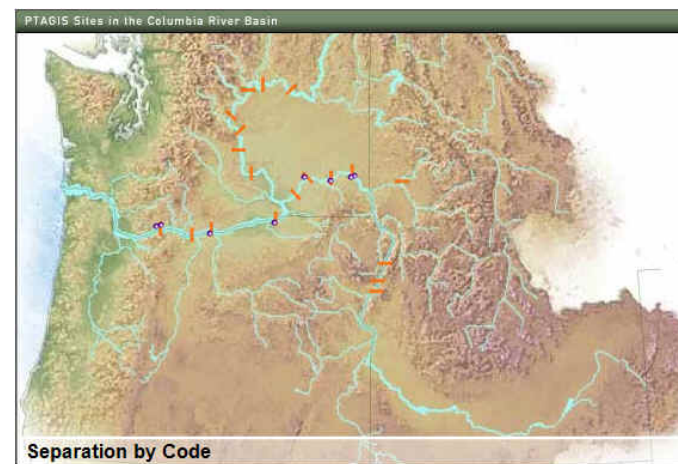
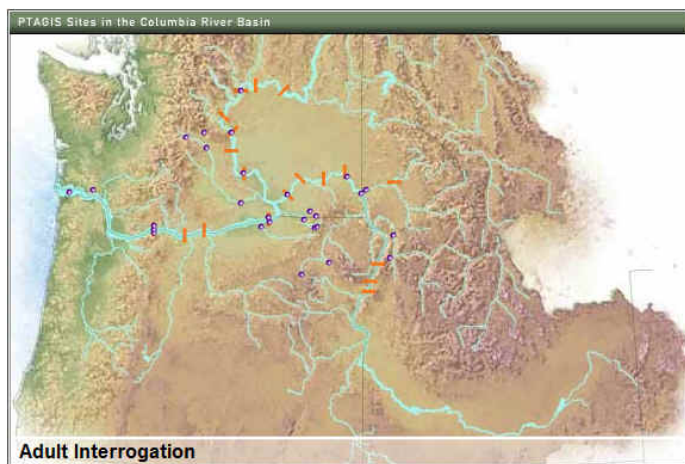
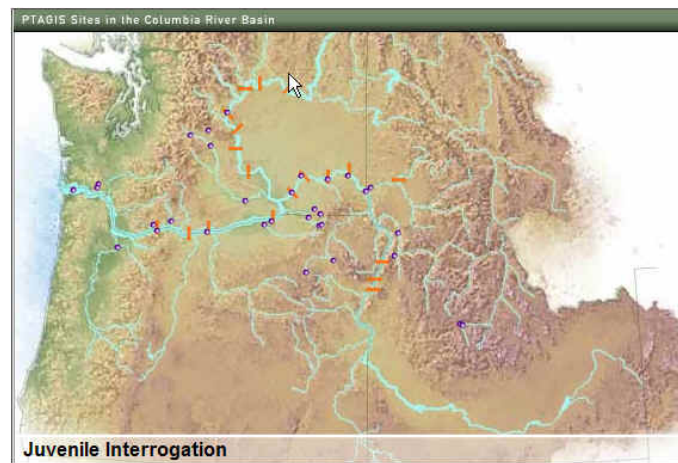
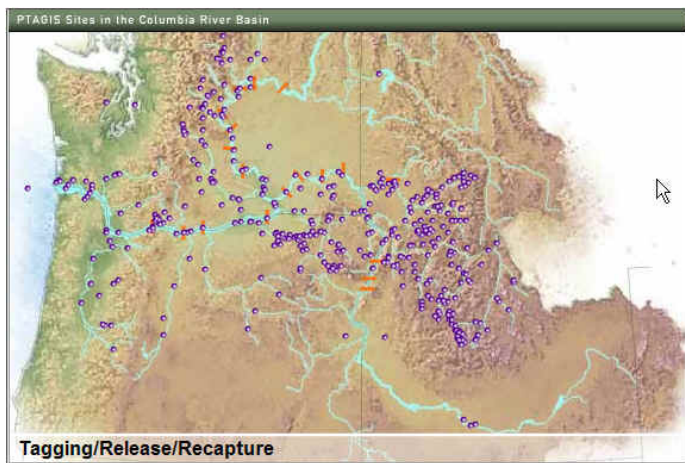
Problems & Solutions	
Water	Slow Tag
Electromagnetic interference (EMI)	Shield
Read Range	Bigger Tag / Active Tag
Tag Density / Read Speed	Faster Tag

Read Speed





## PTAGIS Mark / Release and Recapture Sites





## PTAGIS Project Overview

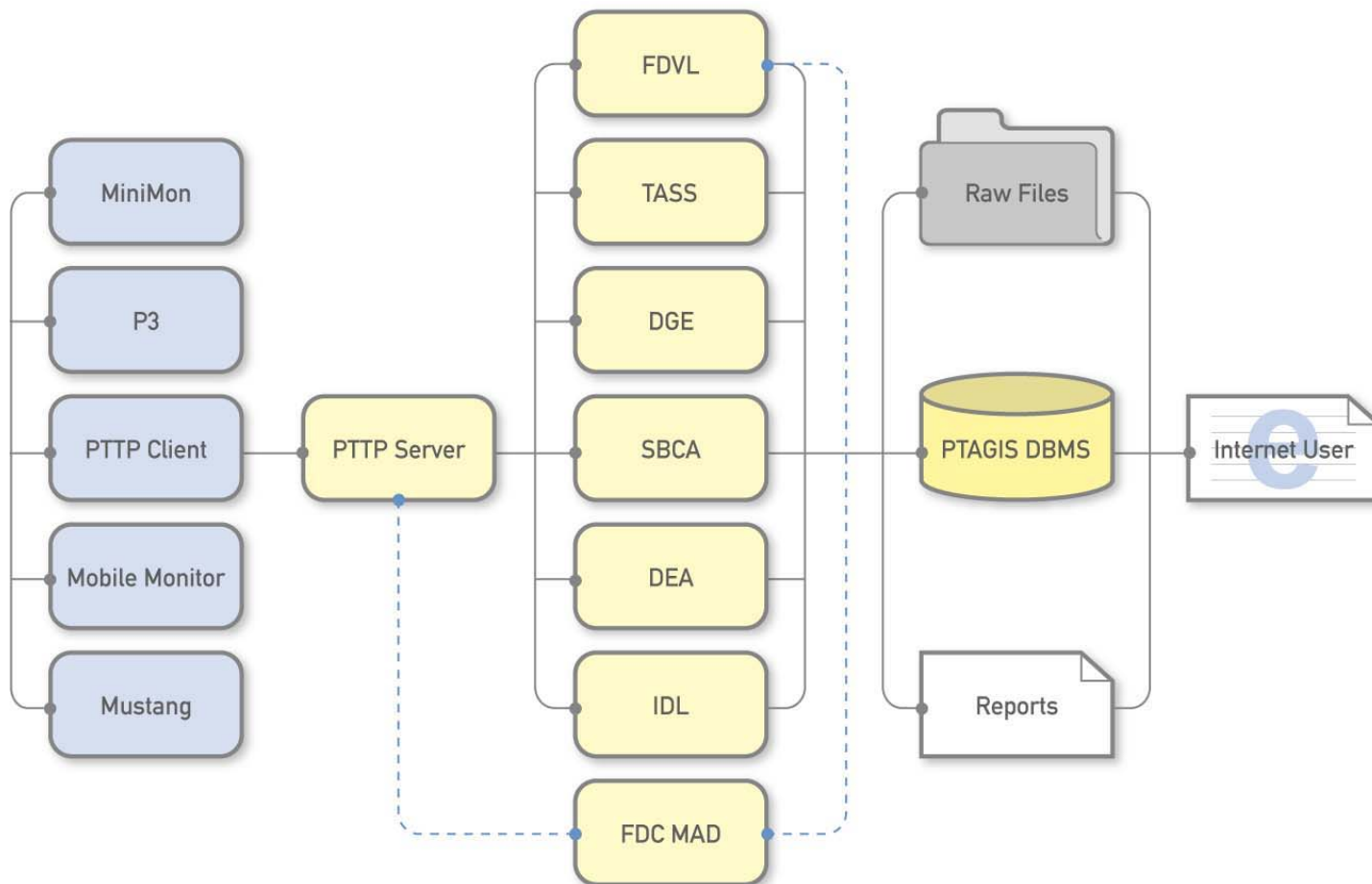
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1. Data Systems O&M
2. Separation by Code O&M
3. Interrogation Site O&M
4. Coordination
5. Other Support Actions





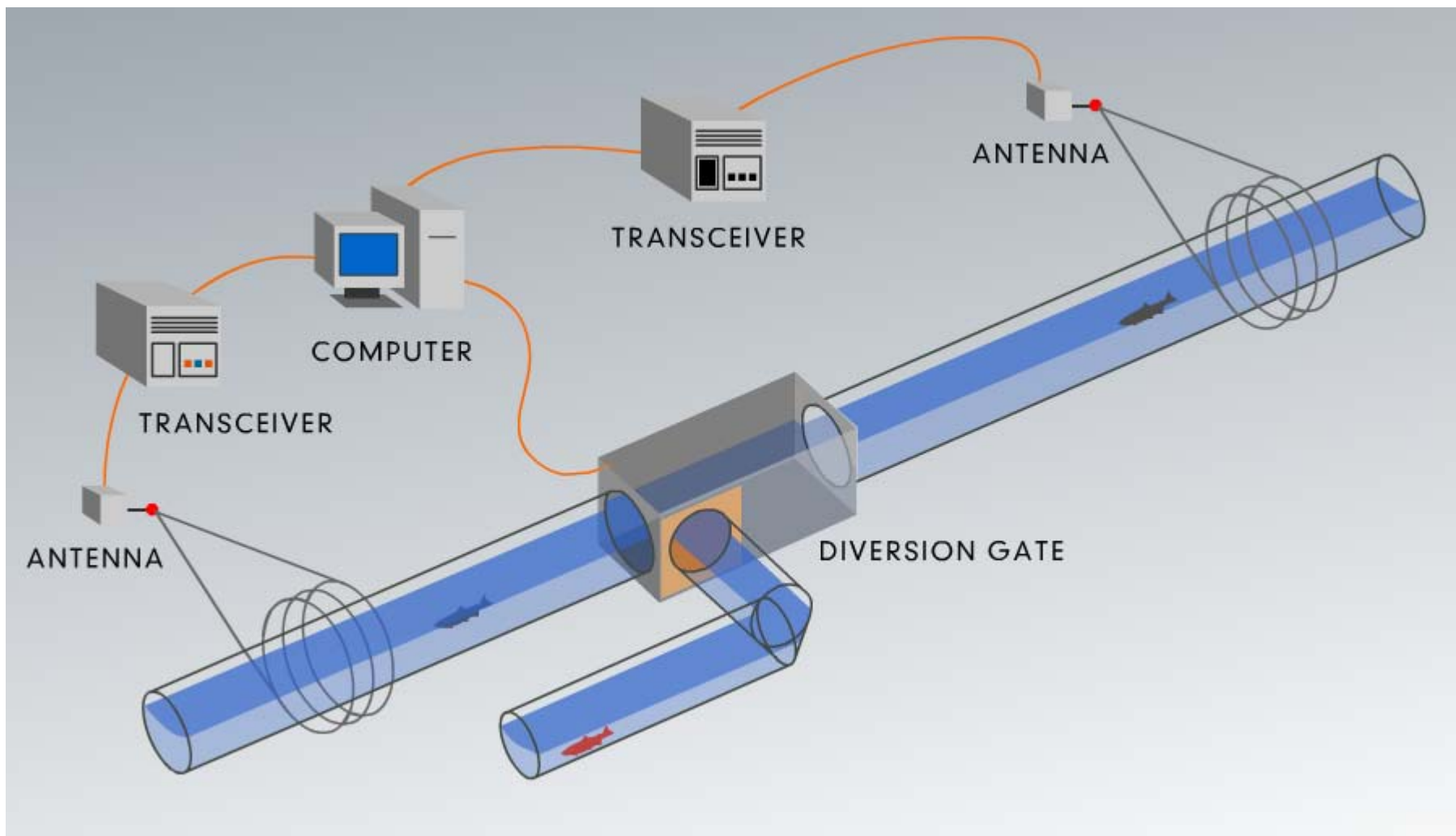
## 1. Client, Server & Web Systems







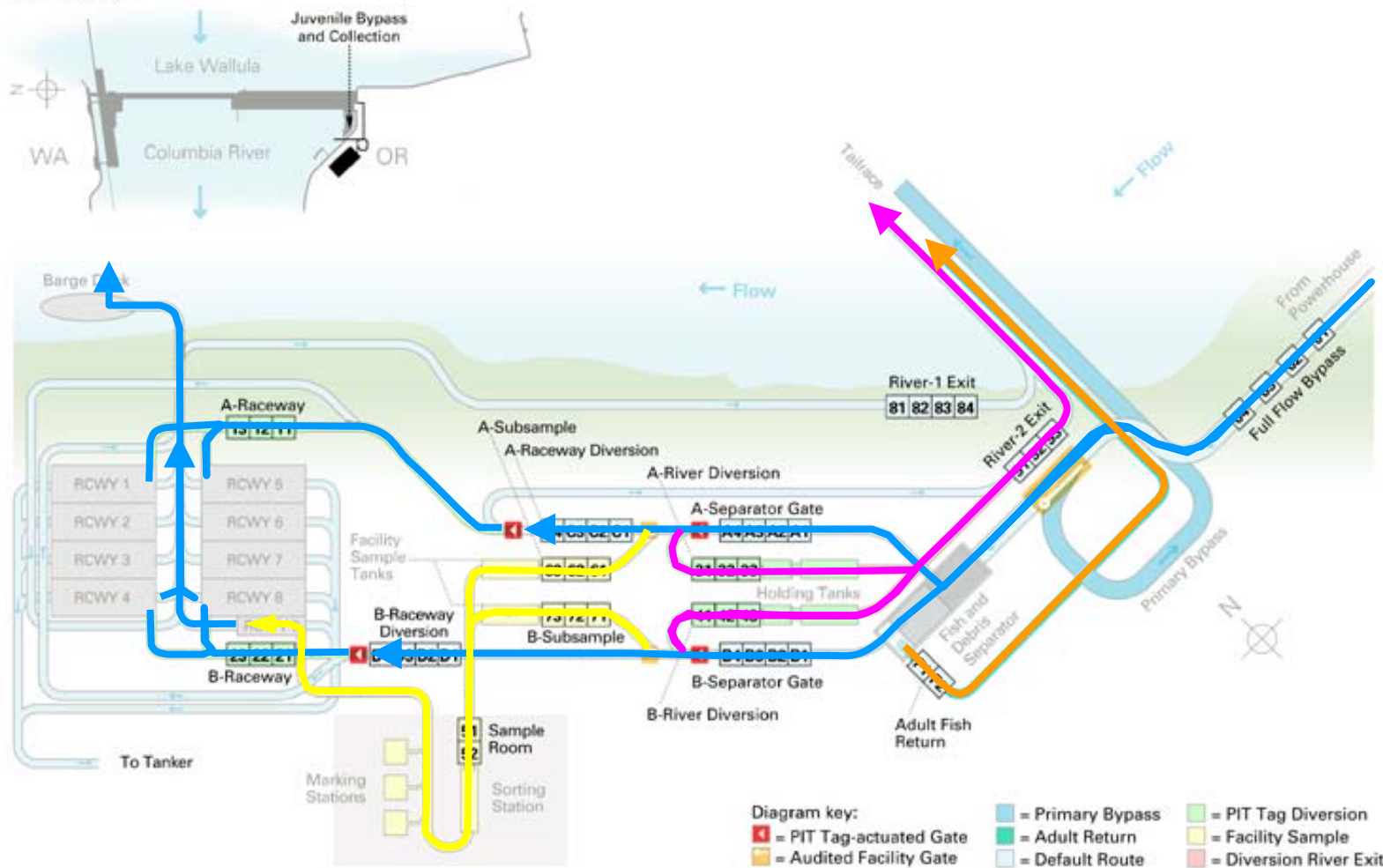
## 2. Separation by Code Support







Site Overview:





### 3. Field Systems Operations and Maintenance

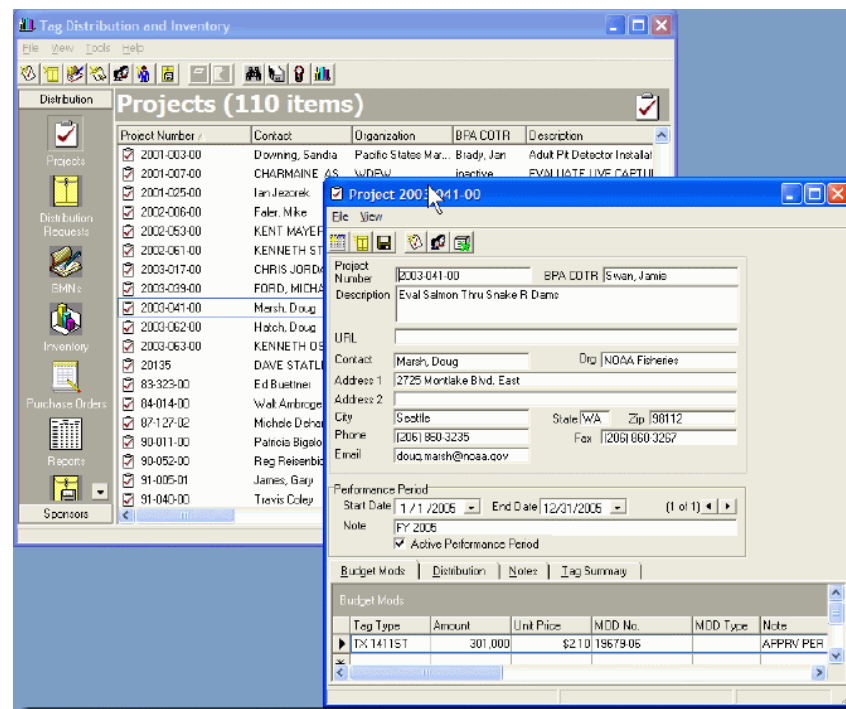
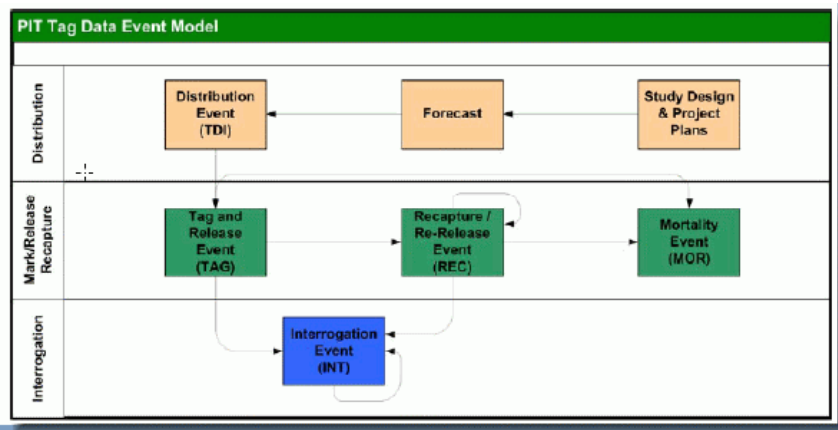
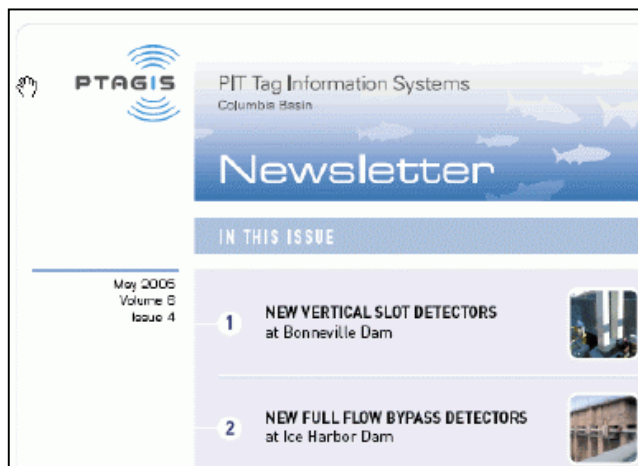


SITE	MONITOR	COIL	FISH SEEN	MISSED	PERCENT
MCJ	Full Flow Bypass		177112		
		01	165831	11281	93.63
		02	167570	9542	94.61
		03	168005	9107	94.86
		04	167608	9504	94.63

[illegible]



## Coordination





## Other Support Actions



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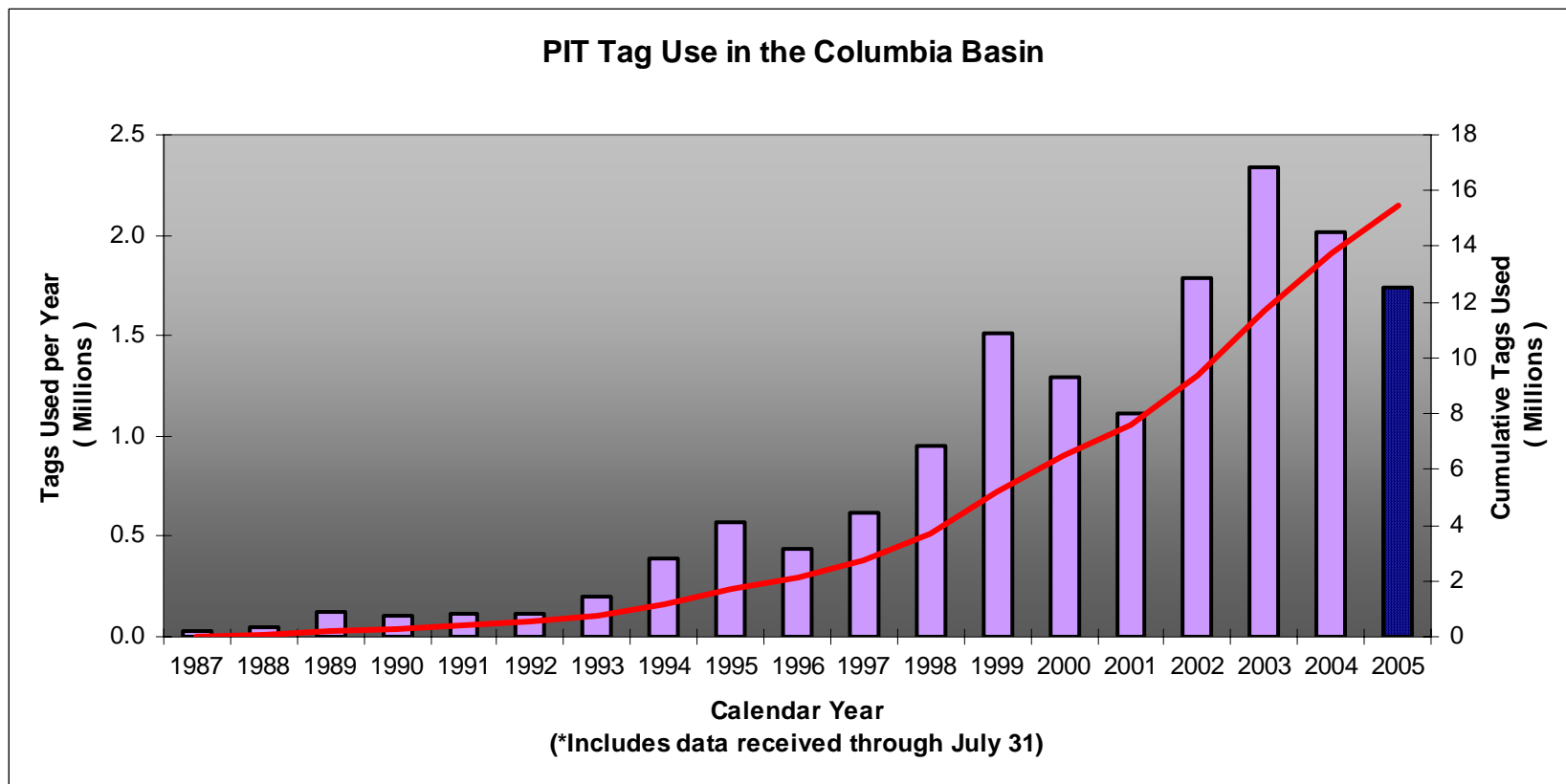
## Trends: Changes in Applications / Technologies

Year	Key Application*	Read Range*	Transceiver Cost	Tag Cost
1987	Small flumes	6 - 12 inch	\$5,200*	\$2.90
2000	ISO Tag Transition	6 - 12 inch	\$6,000	\$2.25
2001	Adult Ladder Tests	2' x 2'	\$6,000	\$2.25
2001	"In Stream" tests AB1 and RCX	12' x 3'*	\$6,000	
2002	McNary Counting Window	6' x 18"	\$6,000	\$2.25
2002	McNary Full Flow Bypass	36" round	\$6,000	
2006	BON CC PIT	15' x 15'*	*	\$2.00



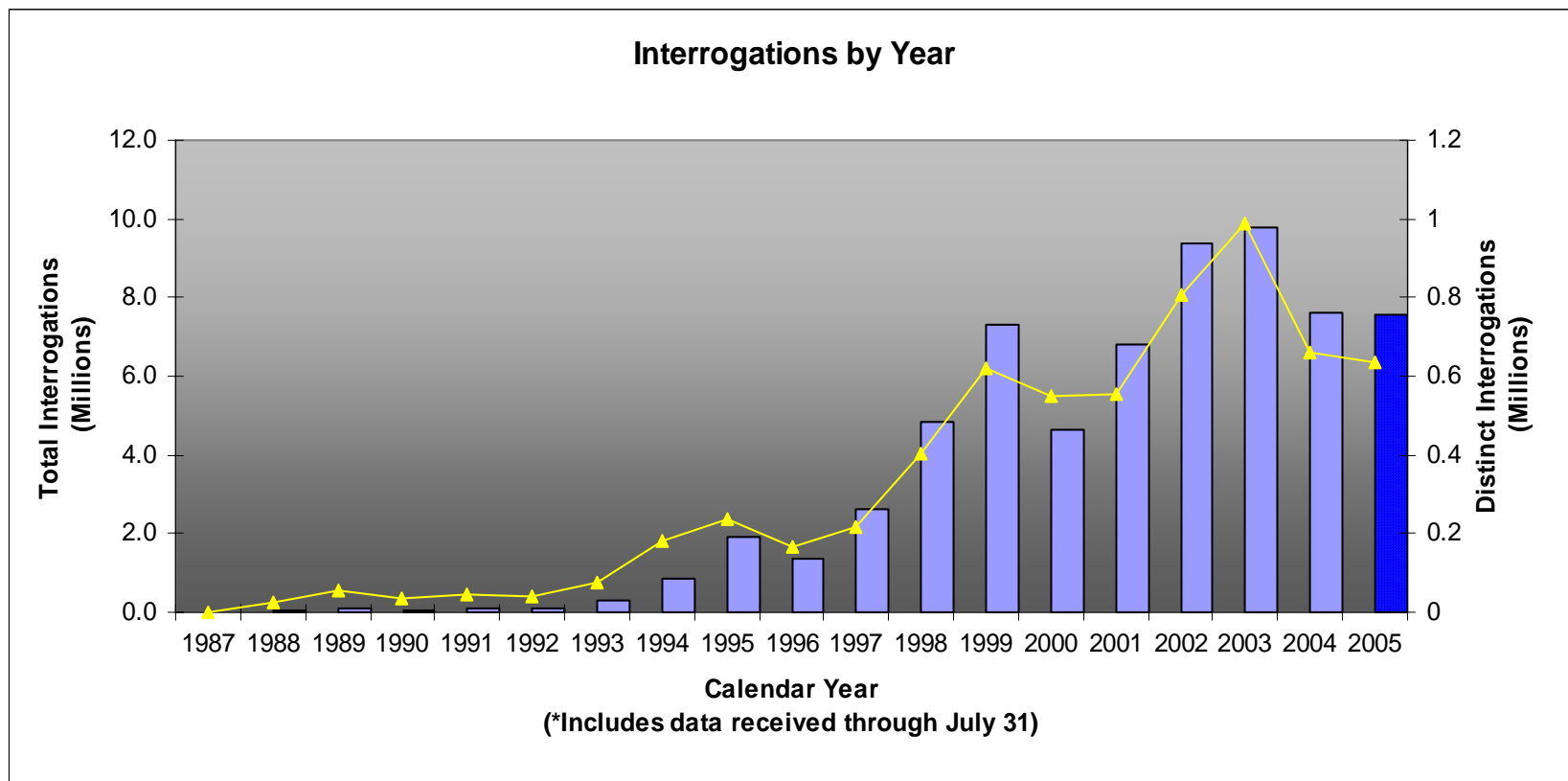


## Growth in Tag Usage



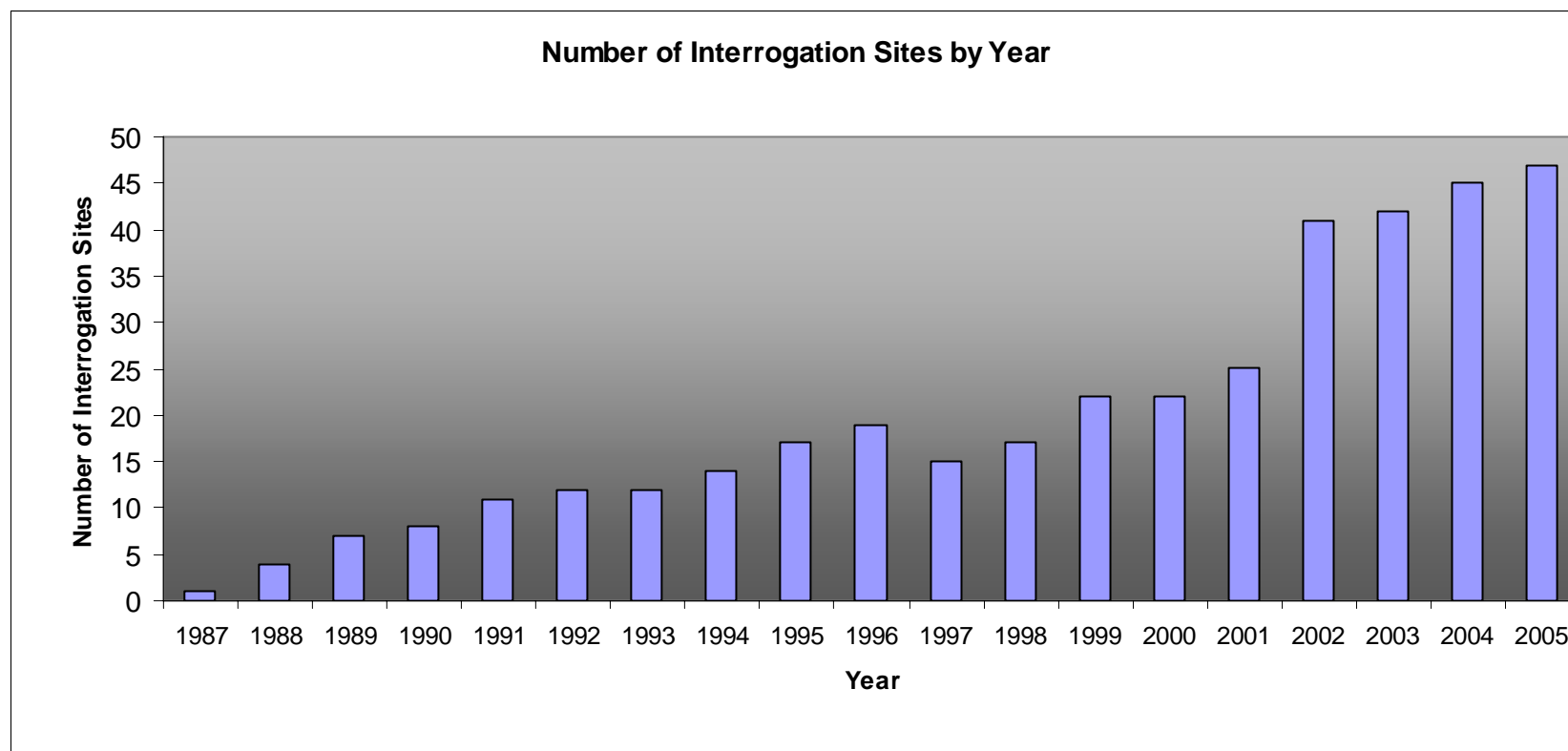


## Interrogation Data Volume Depends on River Operations





## Growth in Number of Interrogation Sites





## Finally -- PTAGIS Challenges

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- Manage the Continued Increase in Scope, Scale & Complexity
  - More ‘Non-Traditional’ Applications
  - More “Un-Managed” Interrogation Sites
  - More Species
  - More Tags Used
  - More Types of Tags Used
  - More Types of Tag Readers
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