

Fish Habitat Information North Fork Shenandoah River, Summer 2001

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Overview

1. **What we were looking for**
2. **What we have found so far**
3. **Where are we going**

Objective : Habitat Criteria

- **Establish Habitat Suitability Criteria**
 - **Develop criteria for entire habitat guilds**
 - **Develop criteria for representative species**

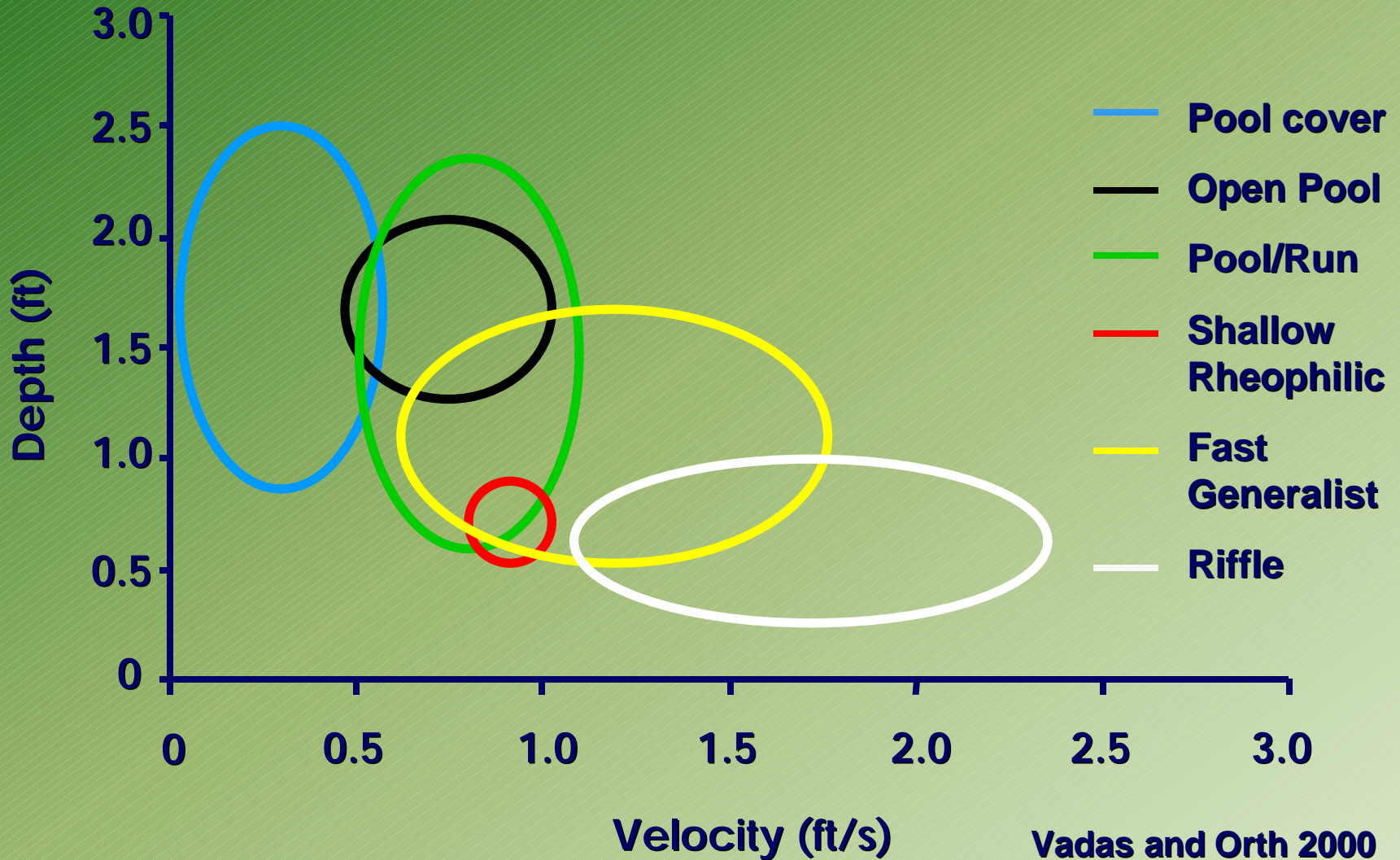


Habitat Guild

- A Guild is a group of species using resources in a similar way.
- Using same habitat conditions



Habitat Guild Structure



Riffle Guild

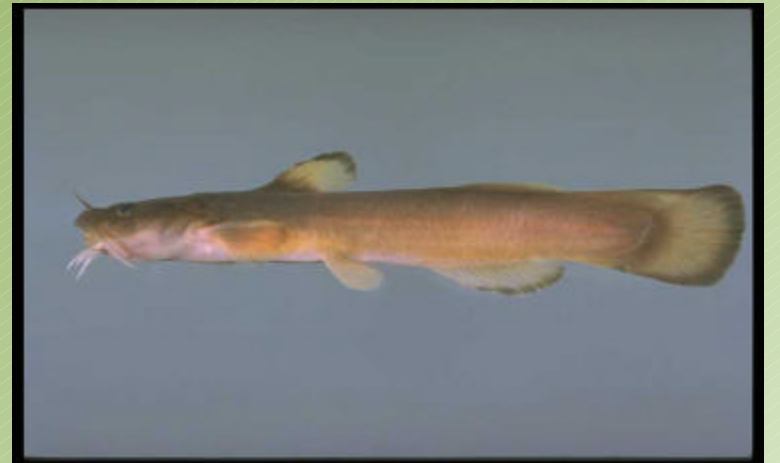
- **Fluvial Specialists**
 - High velocity
 - Shallow water
- **Examples**
 - Central Stoneroller
 - Mottled Sculpin
 - Longnose Dace



Images from Jenkins and Burkhead 1994

Fast Generalist Guild

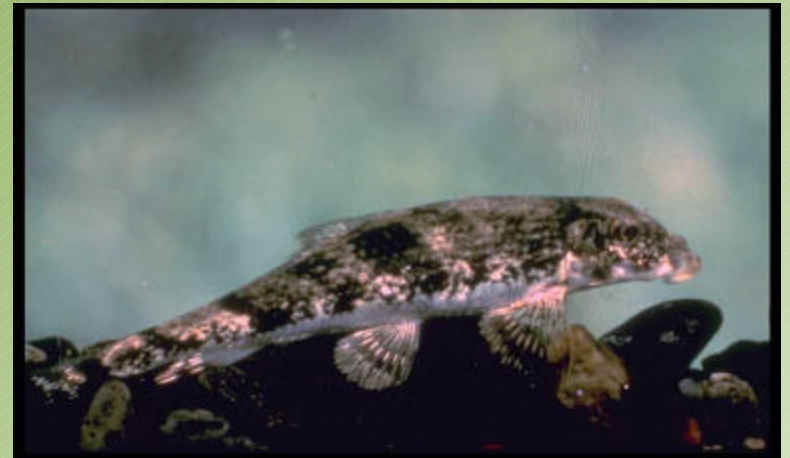
- **Fluvial Specialists**
 - High Velocity
 - Wide range of depths
- **Examples**
 - Margined Madtom
 - Spotfin Shiner



Images from Jenkins and Burkhead 1994

Pool / Run Guild

- **Fluvial Generalists**
 - Medium Velocity
 - Medium Depths
- **Examples**
 - Fallfish
 - River Chub
 - Green Sunfish
 - Northern Hogsucker



Images from Jenkins and Burkhead 1994

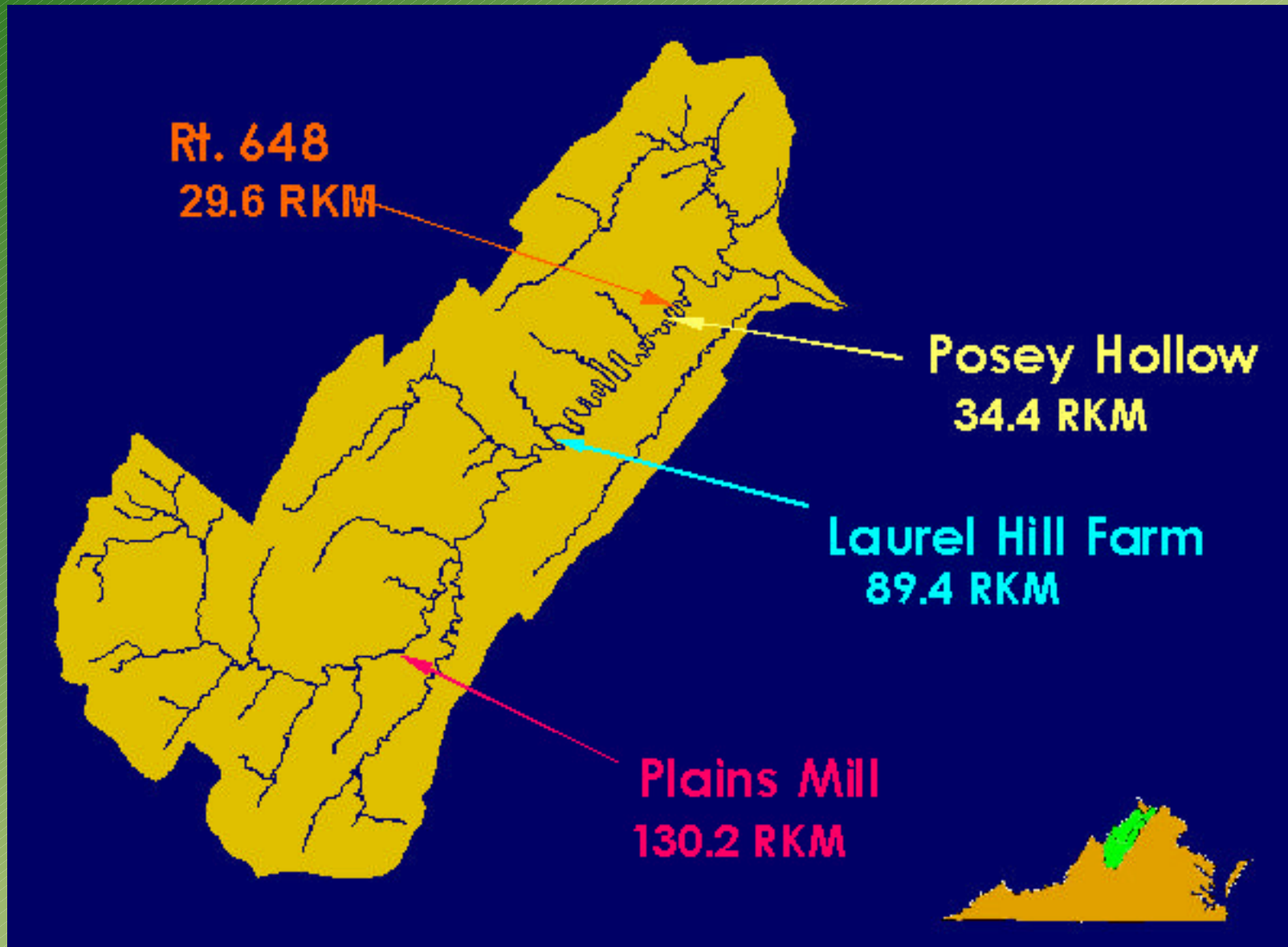
Pool Cover Guild

- **Fluvial Generalists**
 - Low Velocities
 - Deep Water
- **Examples**
 - Smallmouth Bass
 - Redbreast Sunfish
 - Rock Bass



Images from Jenkins and Burkhead 1994

Study Site Locations



Habitat Sampling

- Two sampling techniques
 - Snorkeling
 - Electrofishing with a throwable anode



What Did We Find ?

- **Guild and Species Numbers**
- **Guild and Species Distributions**
- **Habitat Use by Guilds**

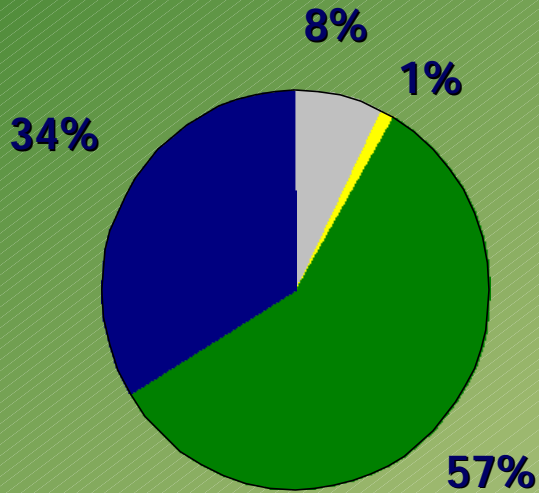


Data Breakdown

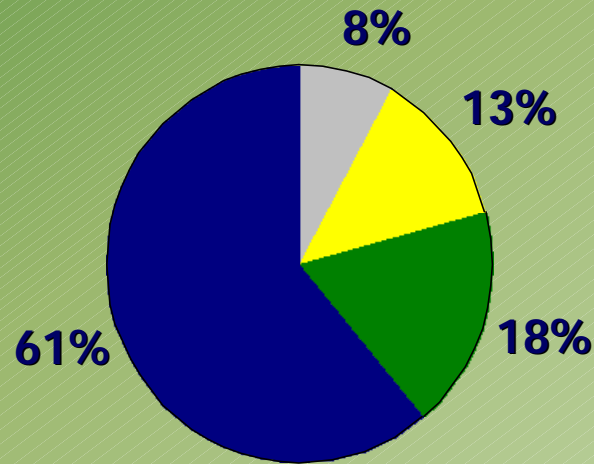
- **31 Species were sampled in 6 Guilds**
- **Riffle Guild (N=118)**
 - 4 Species
- **Fast Generalist Guild (N=188)**
 - 5 Species
- **Pool/Run Guild (N=128)**
 - 9 Species

Guild Distribution

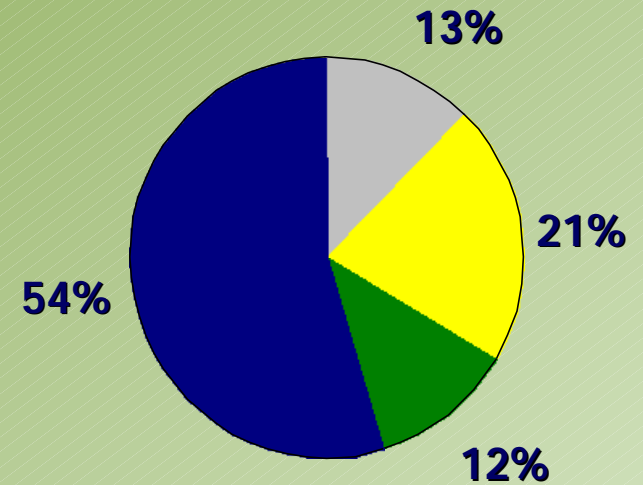
Riffle Guild



Fast Generalist Guild



Pool Run Guild



 Rt 648

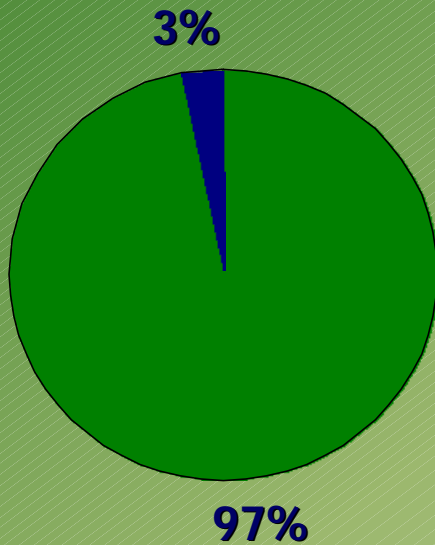
 Laurel Hill Farm

 Posey Hollow

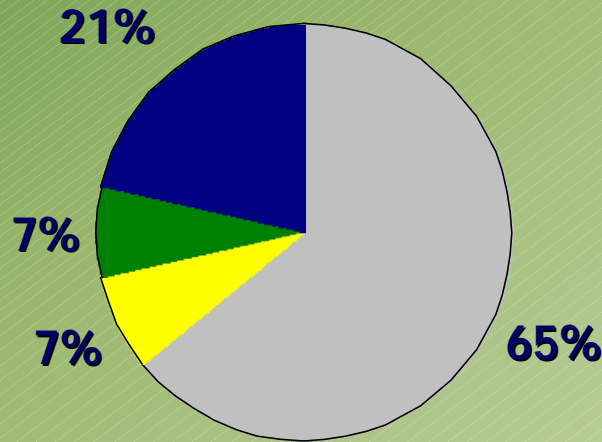
 Plains Mill

Riffle Species Distribution

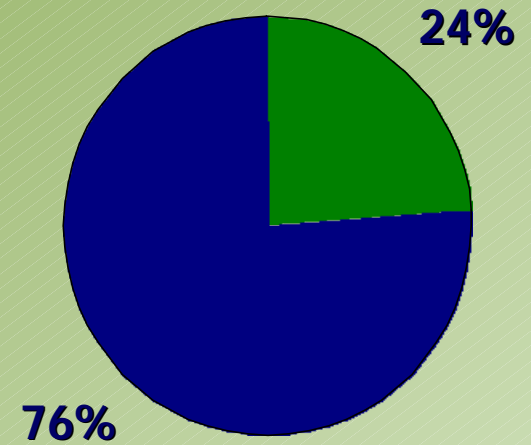
Mottled Sculpin



Central Stoneroller



Longnose Dace



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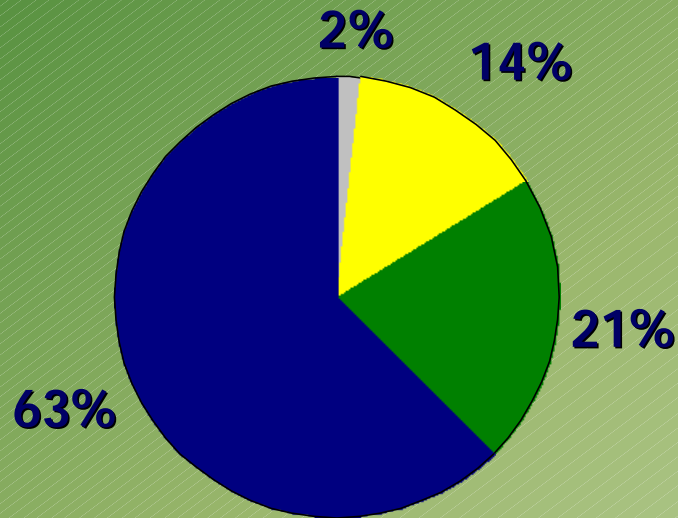
 Laurel Hill Farm

 Posey Hollow

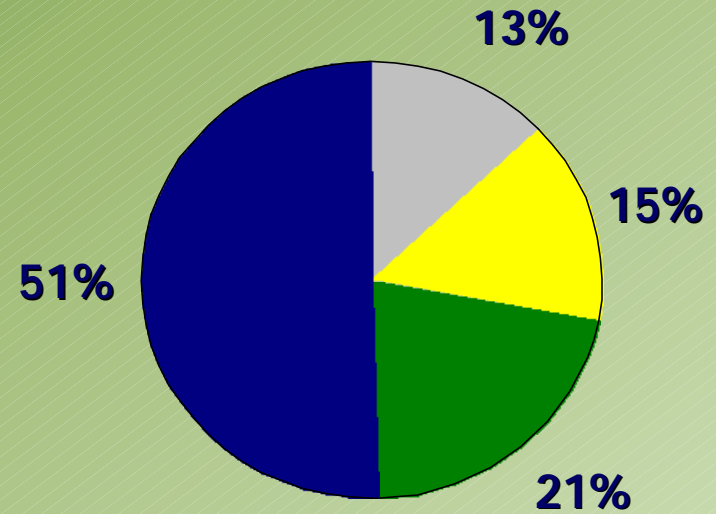
 Plains Mill

Fast Generalist Distribution

Margined Madtom



Spotfin Shiner

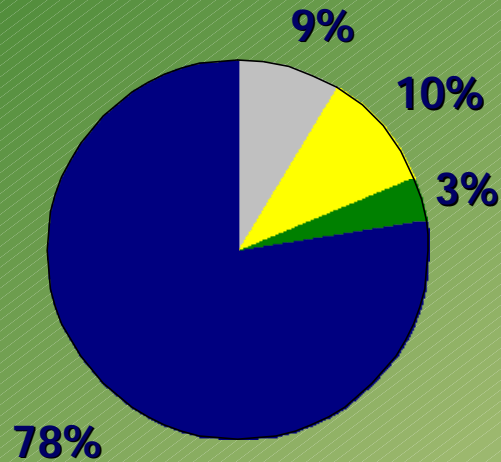


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 Posey Hollow

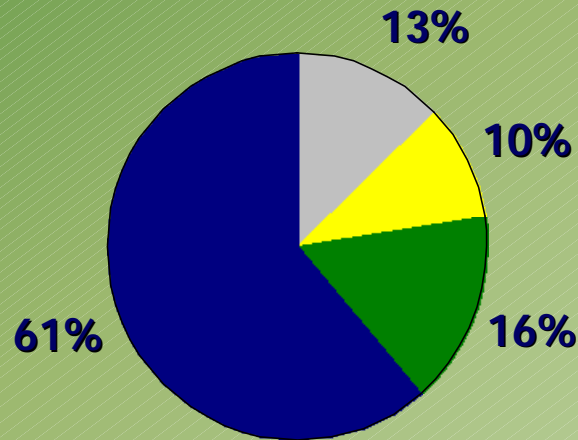
 Laurel Hill Farm
 Plains Mill

Pool/Run Species Distribution

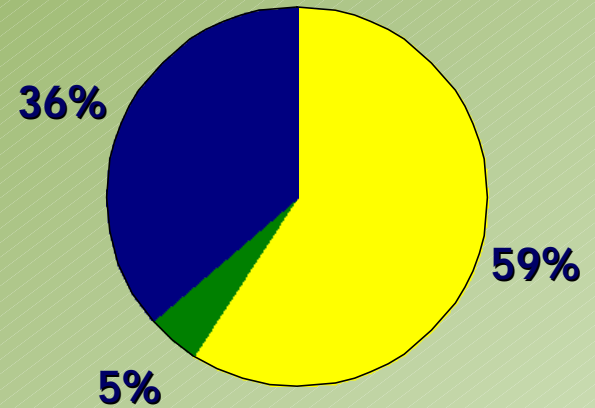
Green Sunfish



Fallfish



Northern Hogsucker



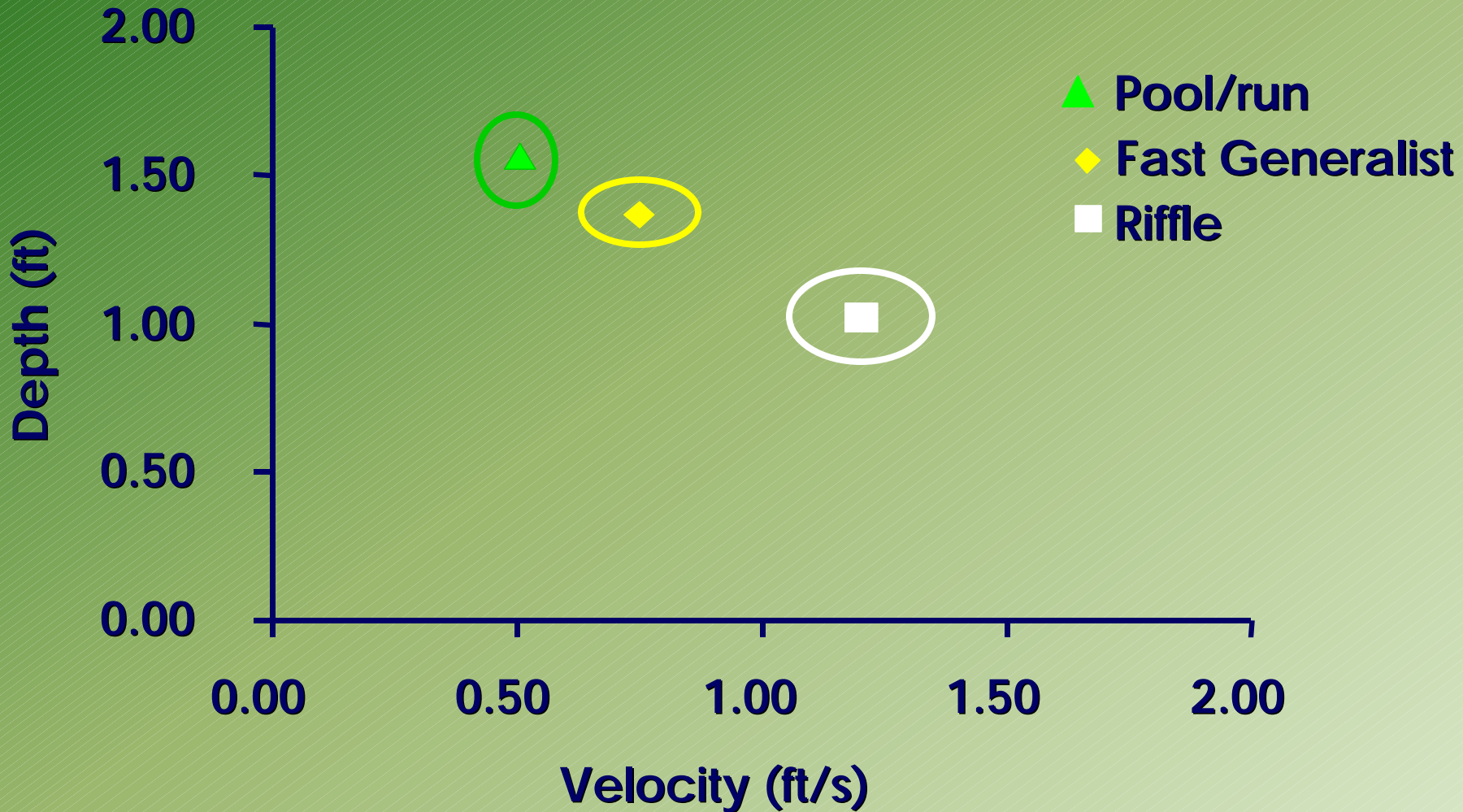
 Rt 648

 Laurel Hill Farm

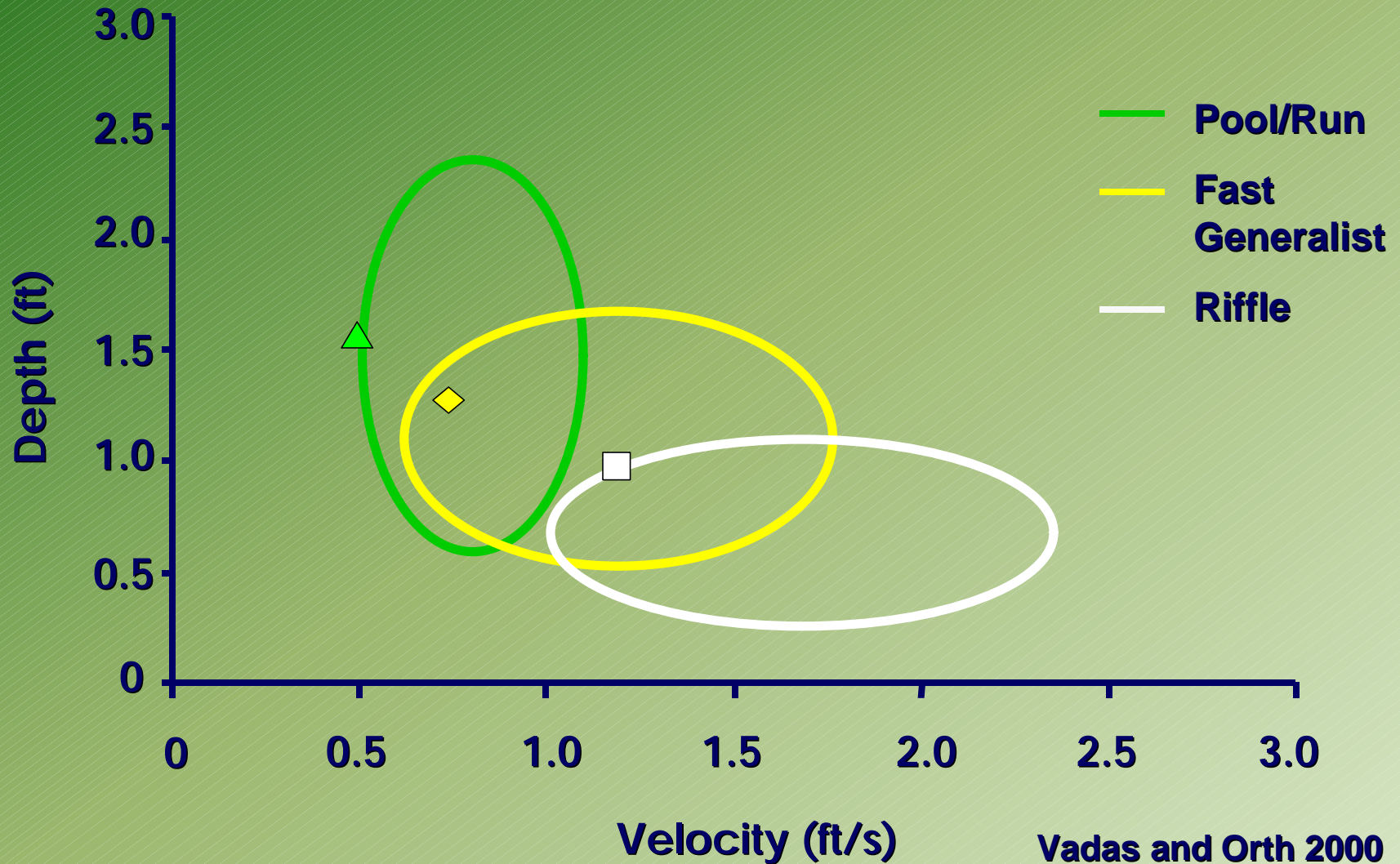
 Posey Hollow

 Plains Mill

Guild Habitat Use



Guild Habitat Use



Vadas and Orth 2000

Data Summary

- **Guild distributions match expectations**
- **Riffle species distributions unexpected**
- **Habitat use matching expectations**

Now What?

- **Develop Guild and Individual Species Habitat Suitability Criteria**
- **Test Validity of Criteria Summer 2002**

