



# Invasive Fish Strategic Plan and Operational Alternatives

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Progress Report to the AMWG  
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# THANK YOU !!!

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## Directive Bullet 1 – agencies work with TWG to:

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Develop a draft strategic plan to prevent, detect, and respond to cool- and warmwater invasive fish establishment below Glen Canyon Dam. The plan should include proposed monitoring, specific activities to be considered for prevention and response, along with their relative effectiveness, detection thresholds (“triggers”) for action, and conditions for discontinuing response activities (e.g. due to success, futility, resource limitations, etc.).

Directive Bullet 2 – agencies work with TWG to:

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Develop 2-4 operational alternatives that could help prevent cool- and warmwater invasive fish establishment, while minimizing potential adverse effects to other resources. Operational alternatives that are not within the scope of the LTEMP ROD may be proposed, but would require additional NEPA, ESA, and NHPA compliance.

# Some Key Challenges

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- Who will write the plan?
- Interpreting the directive, e.g., what is and isn't an operational alternative?
- What is the most important use of our time? Can we meet the moment?
- How best to not duplicate other plans/efforts?
- When to act and which actions to take?
- Balancing the effectiveness of an action with minimizing resource impacts

# Overarching Progress

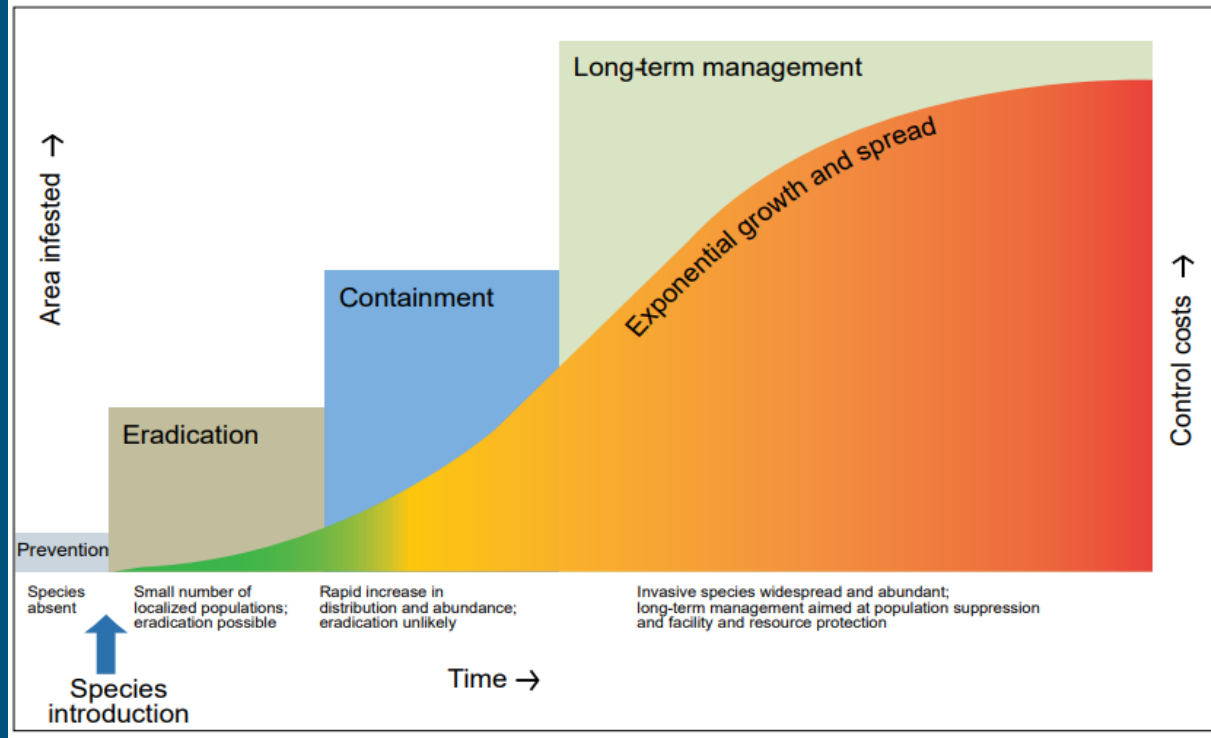
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## AT LEAST

- Goal 1. Prevent the introduction and spread of high-risk nonnative species
- Goal 2. Implement early detection and rapid response efforts

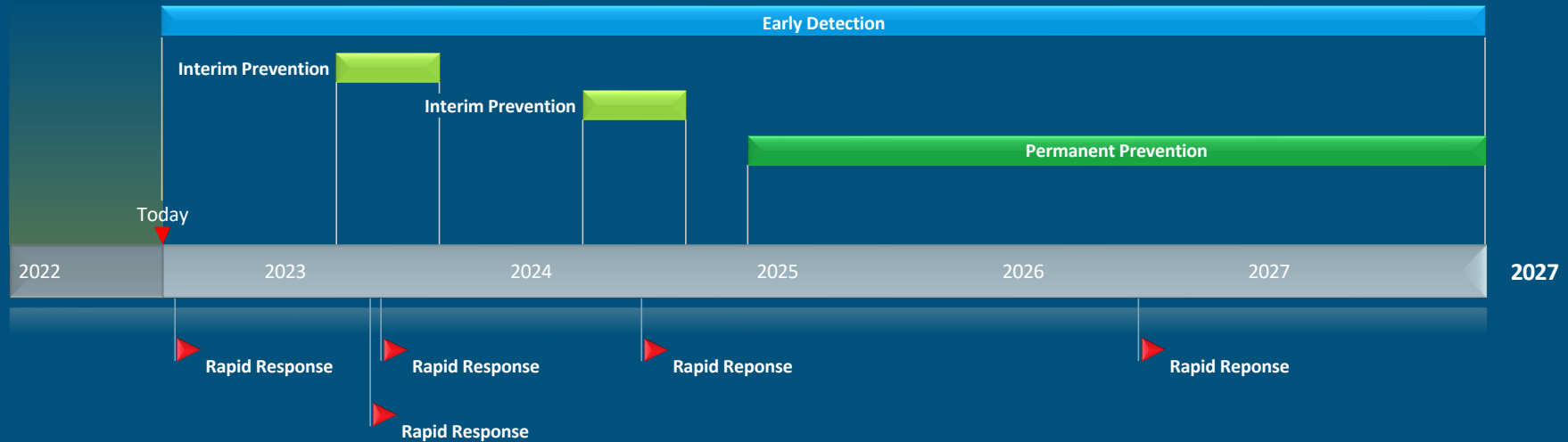
# Overarching Progress

Reset  
the  
clock to  
stay  
here



Species introduction

# An Example Implementation Timeline



Effectiveness monitoring and adaptive decision making important too!



# Strategic Plan Progress

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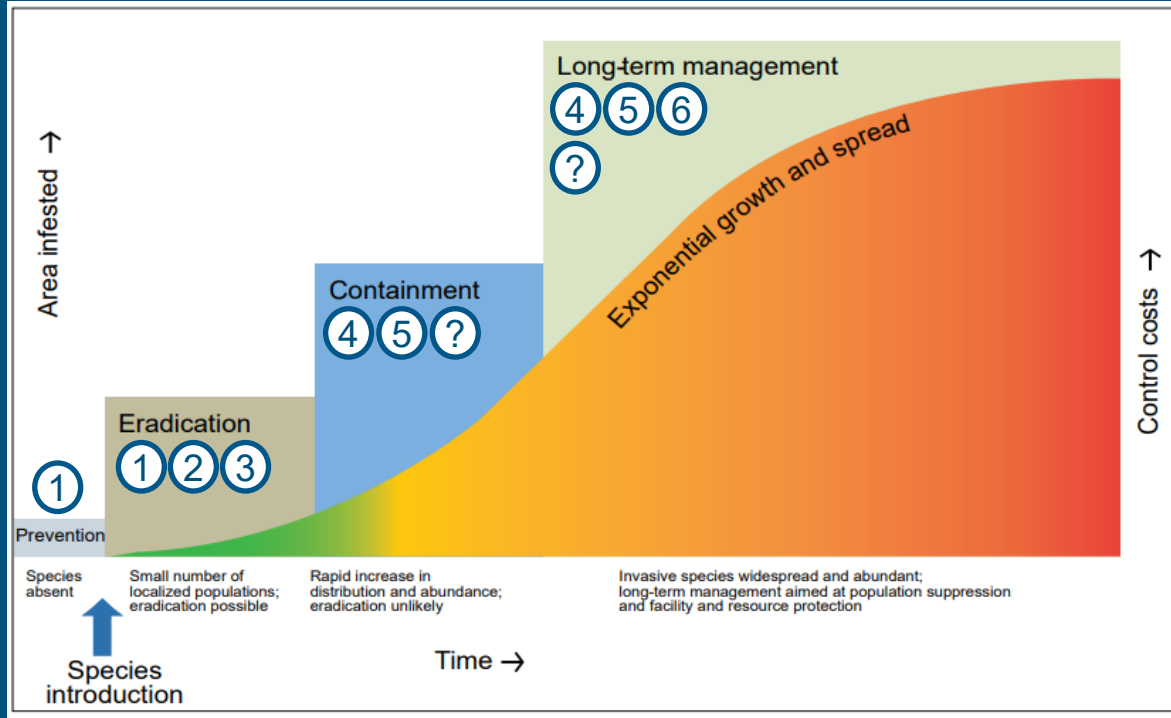
- Waiting on analysis
  - Operational alternatives
  - Fish exclusion
- Developed outline based on an integrated pest management approach
  - Identify fish of concern
  - Monitor fish
  - Identify action triggers
  - Act to prevent and respond
  - Monitor effectiveness of actions

# Strategic Plan Progress

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- Compiled existing management actions and monitoring activities
- Identifying implementation needs/gaps
- Drafted introduction and guiding principles sections

# Seth's Concept (all action types)



All actions	Effective-ness	Tradeoffs minimized
1	Best	Good
2	Best	Better
3	Good	Better
4	Better	Best
5	Better	Better
6	Good	Best

# Operational Alternatives Progress

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- Stakeholder ideas submitted
- Feasibility and merit of ideas discussed
- GCMRC analyzing top 4 ideas
  - 2 temperature ideas (use of bypass)
  - 2 flow disturbance ideas (low/high flows, or blended flow/temperature idea)
- Alternatives will be included in final Strategic Plan
- Discussion still needed

GCMRC Slides Here

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# Immediate Needs

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- Begin NEPA process now so operating alternatives could be available for next year but...
- This is not endorsement of the current alternatives
- Some object to this step
- Do not foreclose other options
- Continue to rigorously pursue other near-, mid-, and long-term options

# Immediate Needs

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- Explore fluctuating flows similar to pre-1996 ROD type flows
- Develop response plans for new hot spots
- Purchase electrofishing boats
- Contract with external fish biologist company for monitoring and response capacity
- Add some funding to existing coop. agreements to build capacity
- Pursue installing generating units in the bypass tubes
- Permanently modify the slough

# Next Steps

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- Continue drafting the Strategic Plan
- Adopt information when available
- Consider other fish besides SMB
- Continue to identify needs/gaps for implementation
- Identify implementation triggers
- Develop consensus recommendation