

# Endangered Species Act and Interagency Consultation

**U.S. Fish and Wildlife Service**



# Overview of the Training

- 1) Background
- 2) Sections 1 – 18
- 3) Section 7
  - Section 7(a)(1)
  - Section 7(a)(2)
    - Informal Consultation
    - Initiating Formal Consultation
    - Formal Consultation
    - Sections of a Biological Opinion



This presentation and links will be on our web site:

[http://www.fws.gov/northeast/virginiafield/EndSpec\\_FedAct.html](http://www.fws.gov/northeast/virginiafield/EndSpec_FedAct.html)



# U.S. Fish and Wildlife Service Mission

Working with others to **conserve, protect and enhance fish, wildlife, and plants and their habitats** for the continuing benefit of the American people.



# Endangered Species Act

Passed in 1973 to represent America's concern about the decline of many fish, wildlife, and plants

<http://www.fws.gov/laws/lawsdigest/esact.html>





# Purposes of the Act



To provide a means whereby the **ecosystems upon which endangered species and threatened species depend** may be **conserved**, to **provide** a program for the conservation of such endangered species and threatened species, and to **take such steps** as may be appropriate to achieve the purposes of the treaties and conventions set forth in subsection (a) of this section.

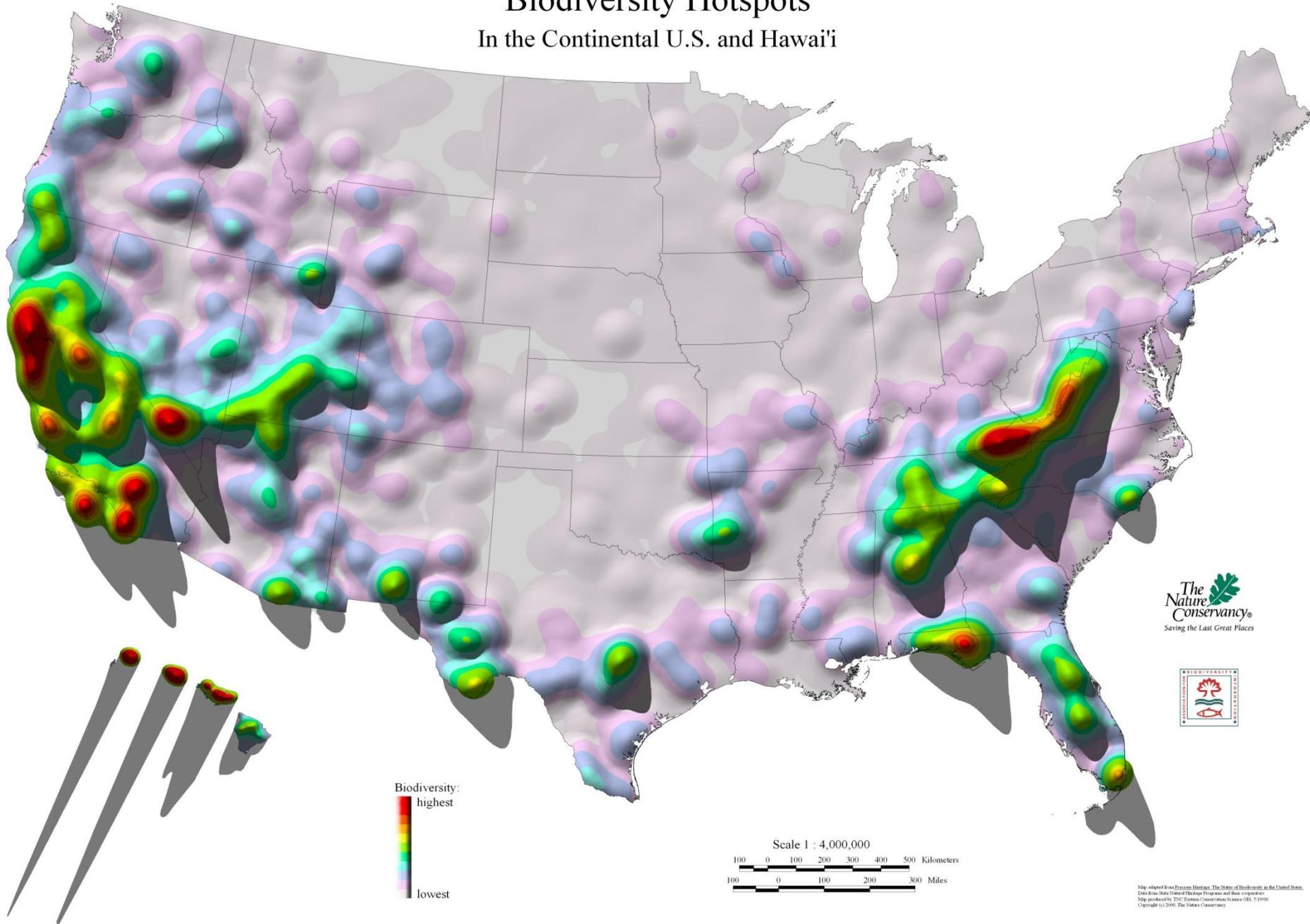
# Endangered Species Act

- U.S. Fish & Wildlife Service – primarily responsible for terrestrial and freshwater organisms
- NOAA Fisheries – primarily responsible for marine organisms



# Biodiversity Hotspots

In the Continental U.S. and Hawai'i



Map adapted from Precipitation Heritage: The States of Biodiversity in the United States.  
Data from State Natural Heritage Program and other cooperators.  
Map produced by The Nature Conservancy Science GIS, 7/2000.  
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# Listed Species in Virginia

- 66 threatened/endangered species
- 4 critical habitat designations
- 6 species proposed for listing
- 4 candidate species
- Over 70 petitioned for listing....

# Best Scientific and Commercial Data Available

Section 4 , 7, 8, 10, and three other ESA references

For example:

Section 4 -

The Secretary shall make determinations... solely on the basis of the best scientific and commercial data available. The Secretary shall designate critical habitat, and make revisions... on the basis of the best scientific data available

Section 7 -

In fulfilling the requirements of this paragraph each agency shall use the best scientific and commercial data available. If the Secretary advises, based on the best scientific and commercial data available, that such species may be present, such agency shall conduct a biological assessment...

# Oyster mussel (*Epioblasma capsaeformis*)



# Section 1

The ESA does not contain a  
Section 1



# Section 2

## Findings, Purposes, and Policy

- **PURPOSES** - The purposes of this Act are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be **conserved**, to **provide a program** for the conservation of such endangered species and threatened species, and **to take such steps** as may be appropriate to achieve the purposes of the treaties and conventions set forth in subsection (a) of this section.

## Section 2 (cont.)



- **POLICY** - It is further declared to be the policy of Congress that **all Federal departments and agencies shall seek to conserve** endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act.

# Section 3

## Definitions

- **Conserve, conserving, and conservation** - to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary.
- **Critical Habitat** – specific geographic areas, whether occupied by a listed species or not, that are essential for its conservation and that have been formally designated by rule published in the Federal Register.
- **Federal Agency** – any department, agency, or instrumentality of the United States.

# Section 3 (cont.)

## Definitions

- **Endangered Species** – any species which is in danger of extinction throughout all or a significant portion of its range.
- **Threatened Species** - any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
- **Proposed Species** – a species of animal or plant that is proposed in the Federal Register to be listed under section 4 of the ESA (not in Section 3).

# Section 4

## Determination of Endangered or Threatened

### Responsibilities of the Services

- List species as threatened or endangered [Section 4 (a)(1)]
  - Any “interested person” may petition the Secretary to list a species
- Designate critical habitat [Section 4(b)]
- Complete recovery plans
- Conduct 5-year status reviews

# Section 4



## Listing Species as Endangered or Threatened

The Secretary shall by regulation promulgated in accordance with subsection (b) determine whether any species is an endangered species or a threatened species.

## Section 4

### Petition to List



Any “interested person” may petition the Service to list a species as endangered or threatened

# Section 4

## Designation of Critical Habitat

The Secretary shall designate critical habitat, and make revisions thereto, under subsection (a)(3) on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impact, of specifying any particular area as critical habitat.

**FACTOID:** Only place in the ESA where the Service must consider economics, national security, etc.

# Section 4 (f)(1)

## Recovery Plans

The Secretary shall develop and implement plans (hereinafter in this subsection referred to as “recovery plans”) for the conservation and survival of endangered species and threatened species listed pursuant to this section, unless he finds that such a plan will not promote the conservation of the species

(<http://www.fws.gov/endangered/species/recovery-plans.html>).

# Section 4 (c)(2)(A)

## 5-Year Status Reviews

The Secretary shall: conduct, at least once every five years, a review of all [federally listed] species and determine on the basis of such review whether any such species should—

- be removed from such list;
- be changed in status from an endangered species to a threatened species; or
- be changed in status from a threatened species to an endangered species.

# Section 5



## Land Acquisition

Gives the Secretary of the Interior and the Secretary of Agriculture (National Forests) the authority to purchase lands for the conservation of federally listed and proposed species.

# Section 6

## Cooperation with the States

“In carrying out the program authorized by this Act, the Secretary shall cooperate to the maximum extent practicable with the States.”



# Section 6 (d)

## Allocation of Funds

The Secretary is authorized to provide financial assistance to any State, through its respective State agency (VDGIF and VDACS in Virginia), which has entered into a cooperative agreement . . . to assist in development of programs for the conservation of endangered and threatened species or to assist in monitoring the status of candidate species . . .



# Responsible Agencies in Virginia

- Virginia Department of Game and Inland Fisheries
  - Responsible for Animals Except Insects
- Virginia Department of Agriculture and Consumer Services
  - Responsible for Insects and Plants

# Section 6

## Cooperation with the States

- Habitat Conservation Planning Assistance Grants
  - Provides funding to States to develop regional HCPs
  - May support planning activities such as document preparation, outreach, and baseline surveys and inventories
  - Funding is competed for at the National level
  - Applicants are the state agencies involved in section 6 Cooperative Agreements (VDACS, VDGIF in Virginia)

# Section 6

## Cooperation with the States

- HCP Land Acquisition Grants
  - Provides funding to States (and nongovernmental organizations through their States) for land acquisitions associated with or complementary to approved HCPs



# Quiz!!

- In what year was the ESA enacted?
- What Section of the ESA address cooperation with the States?
- What is the major point found in Section 1?
- What Section includes the responsibilities of the Services?
- Who are the Services?
- Are Definitions found in Section 1, 2, 3, 4, or 6?

# Yellowfin madtom



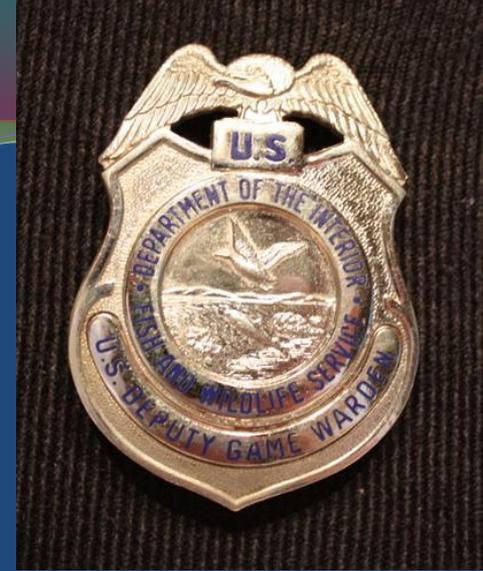
## Section 8



- International Cooperation
- Gives implementation authority for the ESA to the Secretary

# Section 9

## Prohibited Acts



- (A) **import** any such species into, or **export** any such species from the United States;
- (B) **take** any such species **within the United States or the territorial sea of the United States**;
- (C) **take** any such species upon the **high seas**;
- (D) **possess, sell, deliver, carry, transport, or ship, by any means whatsoever**, any such species taken in violation of subparagraphs (B) and (C);
- (E) **deliver, receive, carry, transport, or ship in interstate or foreign commerce, by any means whatsoever** and in the course of a commercial activity, any such species;
- (F) **sell or offer for sale** in interstate or foreign commerce any such species; or
- (G) **violate any regulation pertaining to such species** or any threatened species of fish or wildlife listed pursuant to section 4 of this Act and promulgated by the Secretary pursuant to authority provided by this Act.

# Section 9



**Take** is defined as **harm, harass**, pursue, hunt, shoot, wound, kill, trap, capture, or collect any threatened or endangered species.

- **Harm** is defined as significant **habitat modification** where it kills or injures a listed species through impairment of essential behavior (breeding, feeding, sheltering).
- **Harass** is defined as an act that creates the likelihood of injury to listed species through a significant disruption in normal patterns of behavior.

# Section 10

## Exceptions (to Section 9)

### Permits

- Scientific Purposes Permits
- Enhancement of Propagation or Survival Permits (i.e., Recovery Permits)
- Interstate Commerce Permits
- Incidental Take (only applies to HCPs)
- Habitat Conservation Plan (for non-Federal actions)



# Section 11

## Penalties and Enforcement

- Criminal Violations – fine or imprisonment for not more than one year, or both for knowing violators of any provisions of the ESA.
- Civil Penalties - fine for knowing violators of any provisions of the ESA.
- Citizen Suits

# Sections 12-18

- Section 12 – Review of Plants by Smithsonian
- Section 13 – Conforming Amendments
- Section 14 – Repeals ESCA of 1969
- Section 15 – Funding Appropriations
- Section 16 – Effective Date of ESA Enactment
- Section 17 – ESA does not take precedence over MMPA
- Section 18 – Annual Accounting Cost of ESA



# Section 7

# Interagency Cooperation

# Section 7

## Interagency Consultation Handbook

*[www.fws.gov/angered/esa-library/pdf/esa\\_section7\\_handbook.pdf](http://www.fws.gov/angered/esa-library/pdf/esa_section7_handbook.pdf)*



# Section 7 (a)(1)

## Federal Agency Actions and Consultations

The Secretary shall review other programs administered by him and utilize such programs in furtherance of the purposes of this Act. **All other Federal agencies shall**, in consultation with and with the assistance of the Secretary, **utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species** listed pursuant to section 4 of this Act.

## Section 7(a)(1)



Section 7(a)(1) is potentially  
much more effective at  
recovering listed species than  
Section 7(a)(2)

# Section 7(a)(1)

## Examples



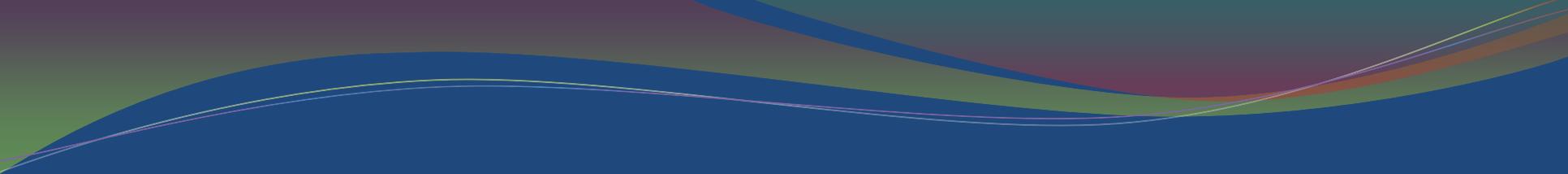
- Changes to project description prior to initiation of consultation.
- Federal lead requires applicants to add measures to improve habitat.
- Adding endangered species conservation requirements in NWPs, SOPs, etc.
- Conservation Recommendations implementation.

# Quiz!!

- True or False – Only the Services are tasked with using their authorities to conserve federally listed species.
- True or False – The only responsibilities that Federal agencies have under the ESA are to follow the Formal Consultation Guidelines.

# James Spiny mussel





# The Informal Consultation Process

# Section 7(a)(2)



Each Federal agency shall ensure that any action authorized, funded, or carried out . . . is not likely to jeopardize the continued existence of any **endangered species or threatened species** or result in the **destruction or adverse modification of [critical] habitat** . . .

# Informal Consultation



- Determine whether listed/proposed species or designated/proposed critical habitat may be in the action area
- Determine the effects of the action on the species/critical habitat
- Explore ways to modify the action to reduce or remove adverse effects to the species/critical habitat
- Explore the design or modification of an action to benefit the species/critical habitat
- Determine the need to enter into formal consultation

# Informal Consultation

## Determining the Action Area

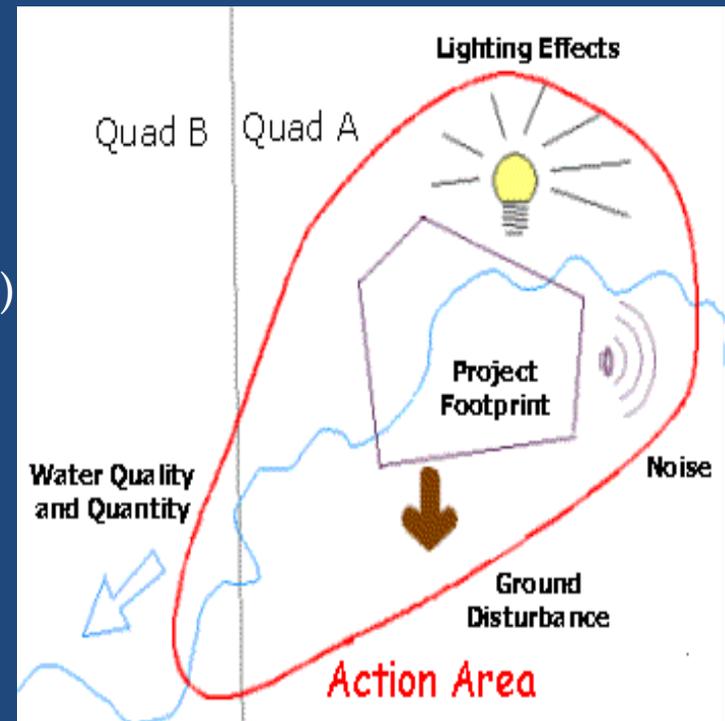


**All areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. [50 CFR §402-02]**

# Informal Consultation

## Determining the Action Area

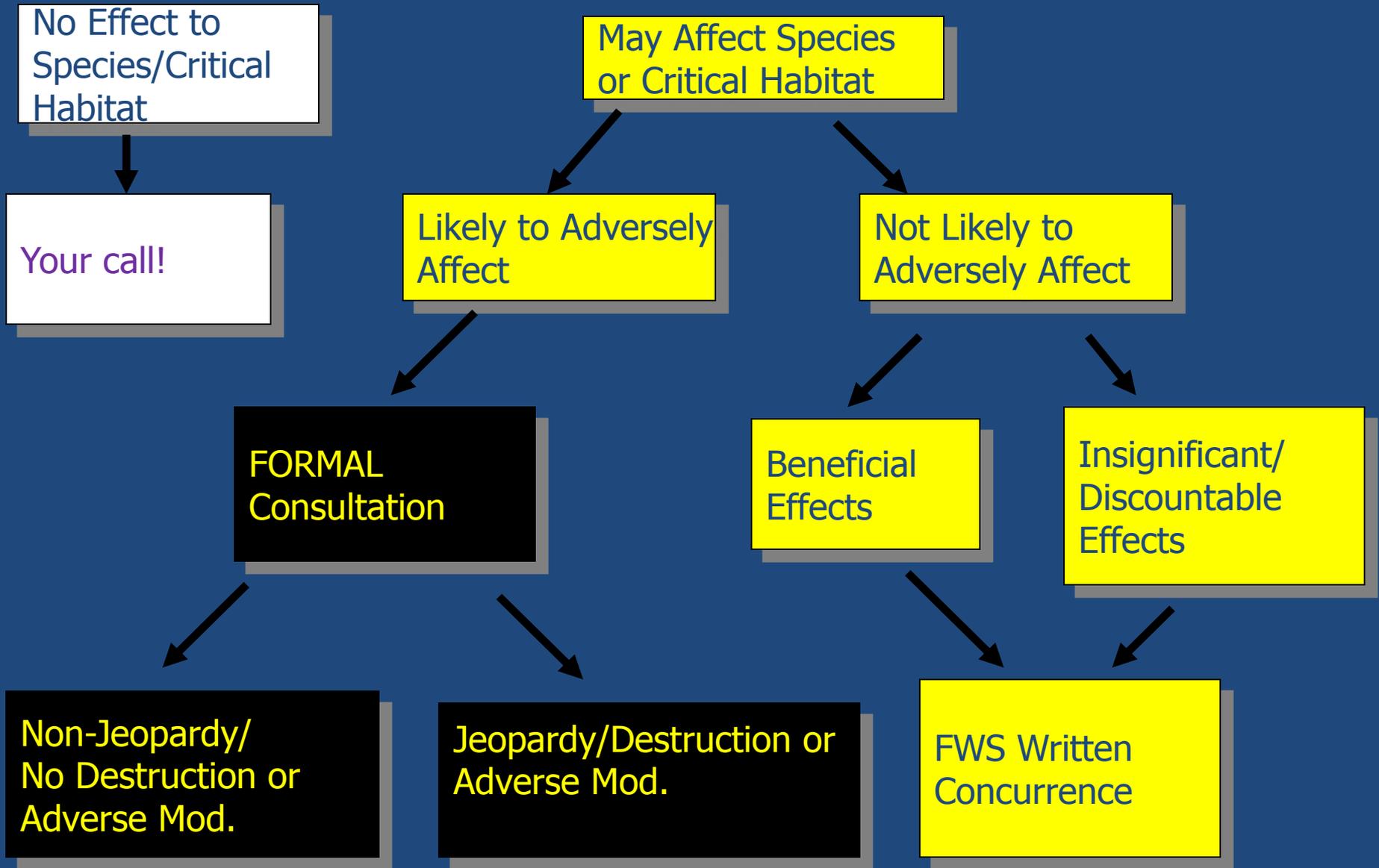
- Identify the range of impacts such as:
  - Ground disturbance (including access roads)
  - Changes in water quality and quantity (both surface and underground water)
  - Air quality
  - Lighting effects
  - Noise disturbance
- Draw a line around all of the affected areas
- This is the action area



# Endangered Species Act – Section 7

■ = Informal

■ = Formal



# Informal Consultation

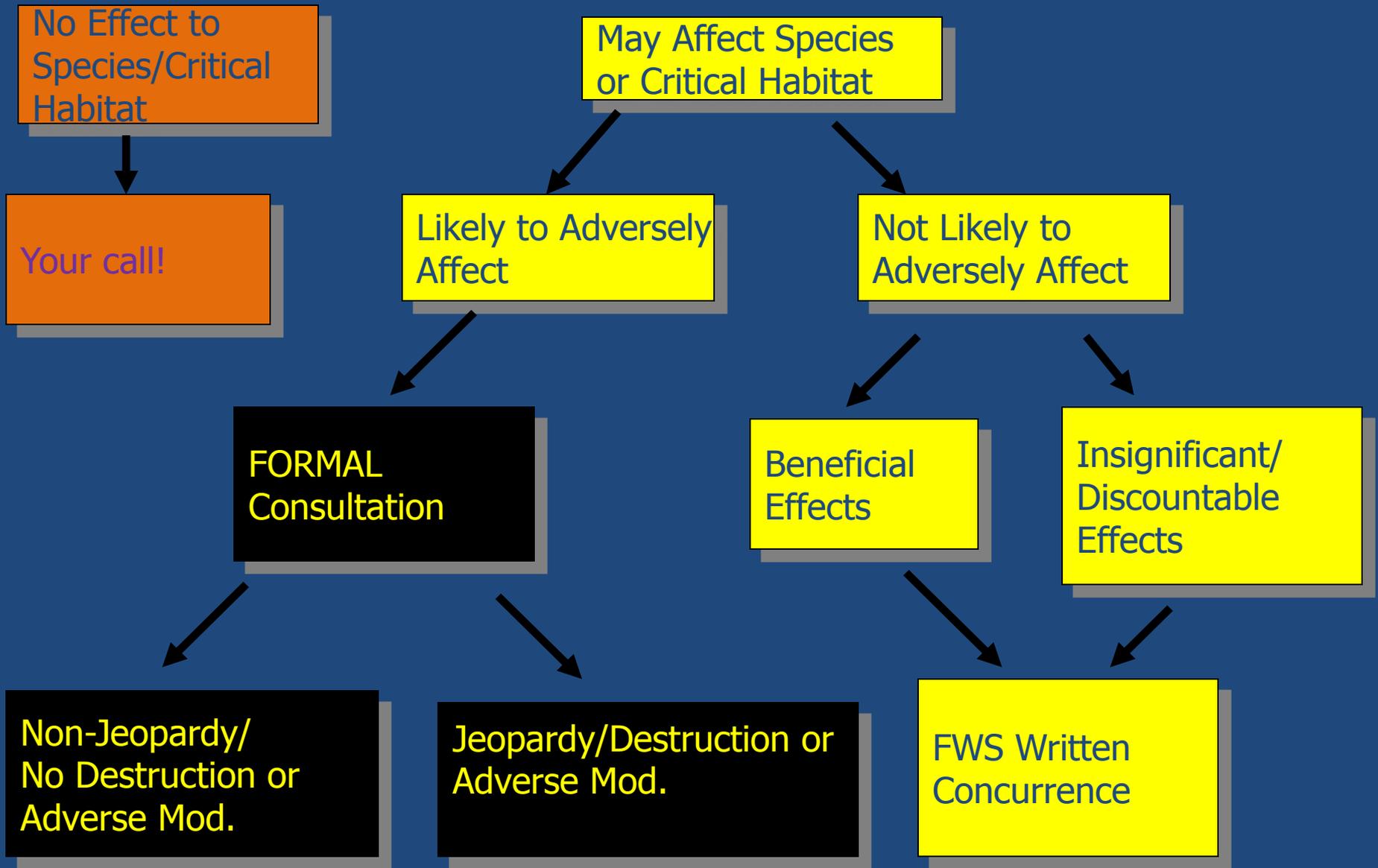
## How to Make a Determination of No Effect, May Affect, NLAA, LAA

- You have determined the action area and obtained a list of potential species.
- Check the species habitat preferences and life history.
- Is the action going to be in that habitat type?
- If so will the species be exposed to project impacts?
- If so, will the action potentially affect the species?

# Endangered Species Act – Section 7

■ = Informal

■ = Formal



# Section 7

## Online Review Process

[http://www.fws.gov/northeast/virginiafield/EndSpec\\_FedAct.html](http://www.fws.gov/northeast/virginiafield/EndSpec_FedAct.html)



# Informal Consultation



## No Effect

The appropriate conclusion when the action agency determines its proposed action will not affect a listed species or designated critical habitat.

# Informal Consultation



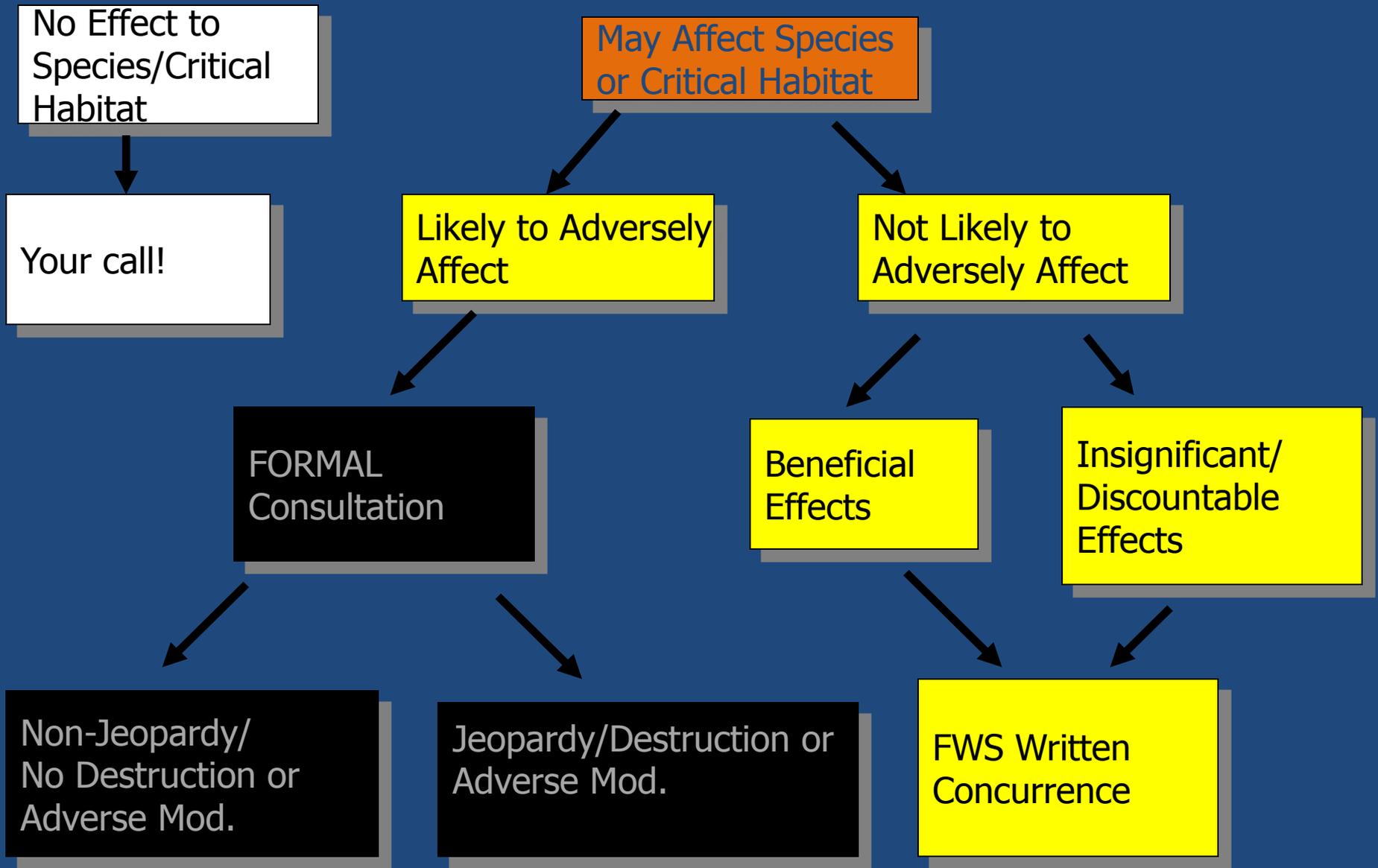
## No Effect Examples

- Minor culvert replacement with no listed species/critical habitat in stream.
- Minor culvert replacement with critical habitat 5 miles downstream and no listed species in stream.

# Endangered Species Act – Section 7

■ = Informal

■ = Formal



# Informal Consultation

## May Affect

The appropriate conclusion when a proposed action **may pose any effect(s) on listed species or designated critical habitat**. When the Federal agency proposing the action determines that a “may affect” situation exists, then they must either initiate formal consultation or seek written concurrence from the Service that the action “is not likely to adversely affect” listed species.

# Informal Consultation

**May Affect**

**Not Likely to Adversely Affect**



## Examples:

- Stepping beside a mussel causing it to close its valves and then continuing to walk to another area.
- Inadvertently flushing an Indiana bat out of its roost tree on one occasion.

# Informal Consultation

## May Affect Likely to Adversely Affect

### Examples:

- Culvert construction in a perennial stream 800 meters upstream from a listed mussel.
- Clearing and grubbing woods adjacent to a stream with listed fish.
- Clearing woods containing small whorled pogonia.



# Informal Consultation



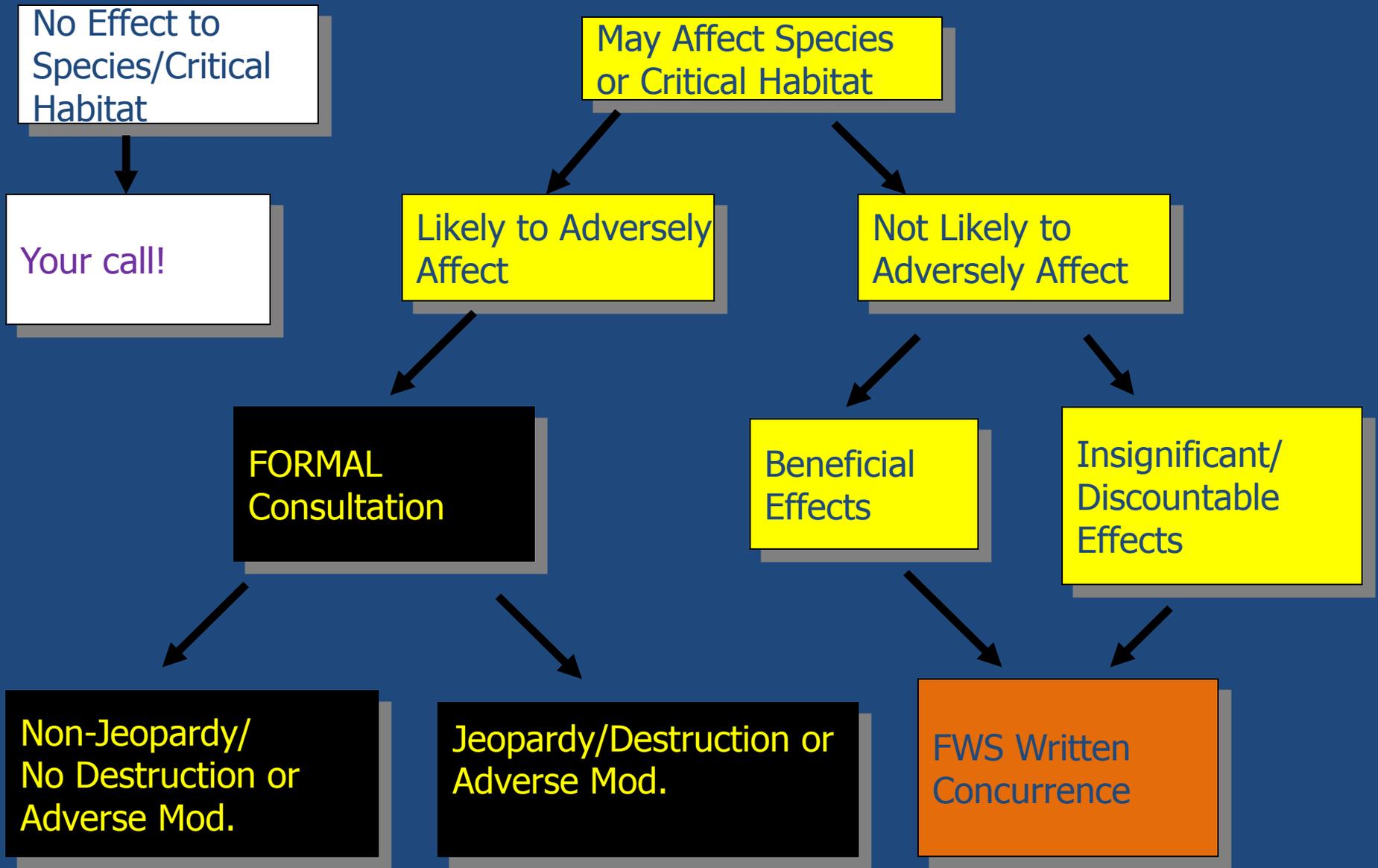
When is informal consultation concluded?

- After a determination of “no effect”
- After a determination of “may affect not likely to adversely affect”
- After a determination of “may affect likely to adversely affect”

# Endangered Species Act – Section 7

■ = Informal

■ = Formal



## Nonconcurrency

If the Services do not agree with the action agency's determination of effects or if there is not enough information to adequately determine the nature of the effects, a letter of nonconcurrency is provided to the action agency.



# Section 7 (a)(4)



## Proposed Species/Critical Habitat & Conference Reports

With proposed species and critical habitat, the Service(s) enters into informal and formal **conference** with the Federal lead. Recommendations in **conference reports** are non-binding but if/when the species is listed/critical habitat is designated, the prohibitions on jeopardy/adverse modification/destruction take effect.

# Section 7 (c)



## Biological Assessment

Process to identify any endangered species or threatened species which is likely to be affected by the action. Should be completed before any contract for construction is entered into and before construction is begun with respect to such action. The BA may be undertaken as part of a Federal agency's compliance with the requirements of section 102 of the National Environmental Policy Act of 1969 (42 U.S.C. 4332).

# Red Cockaded Woodpecker



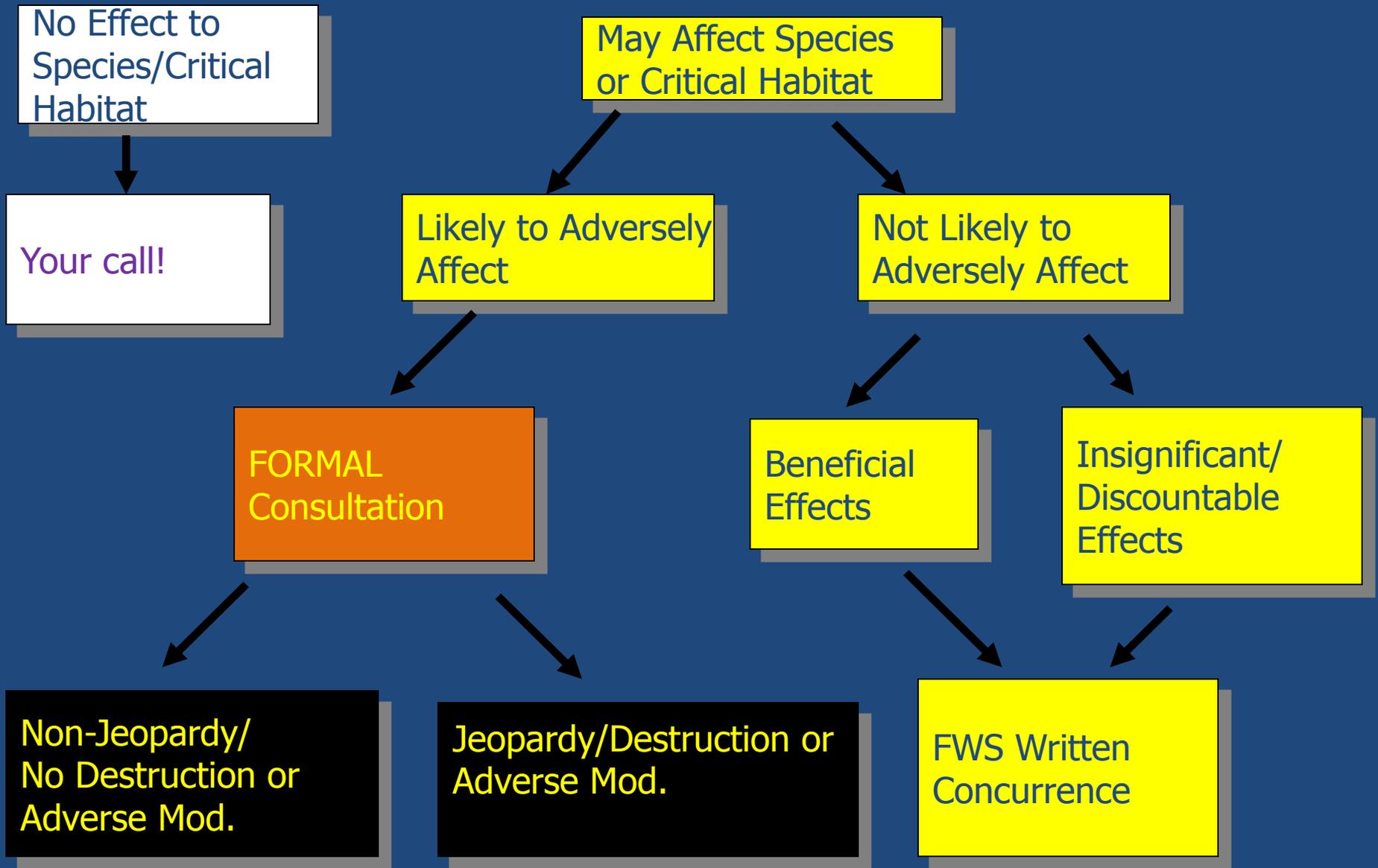
# Initiating Formal Consultation



# Endangered Species Act – Section 7

■ = Informal

■ = Formal



# To Initiate Formal Consultation

- Federal lead/action agency requests formal consultation and request includes a **complete project description**.
- Within 30 days, Service determines whether the request is complete.
- If request is not complete, the Service will contact the Federal lead within 30 days with specific information requests.
- If request is complete, the Service has 90 days to complete formal consultation and 45 days to prepare the biological opinion (135 days total). Time line begins the date the Service receives the complete request from the federal lead.

# What Makes a Complete Project Request?

- (1) A description of the action to be considered
- (2) A description of the specific area that may be affected by the action
- (3) A description of any listed species or critical habitat that may be affected by the action

# What Makes a Complete Project Request? (cont.)

- (4) A description of the manner in which the action may affect any listed species or critical habitat and an analysis of any cumulative effects
- (5) Relevant reports, including any environmental impact statement, environmental assessment, or biological assessment prepared
- (6) Any other relevant available information on the action, the affected listed species, or critical habitat

# Quiz

- True or False - Completion of a Biological Opinion is required for any “may affect” situation.
- True or False - Formal consultation begins on the day that the Federal lead and Service agree that informal consultation has ended.
- True or False – Critical habitat is designated by State agencies under Section 6 of the ESA.
- True or False – Informal consultation presents an opportunity to change project design that could result in “no effect” and negate the need for formal consultation.

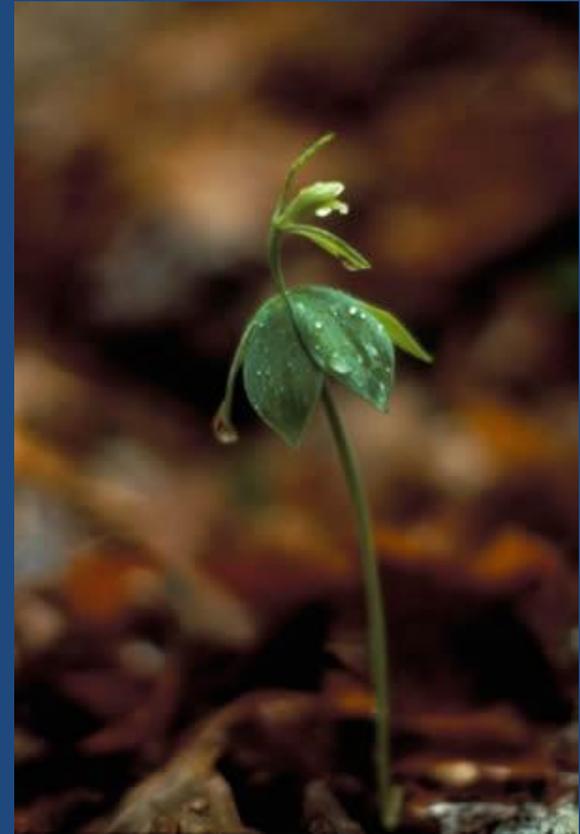
# Peter's Mountain Mallow



# Section 7(a)(2)

## Formal Consultation

When Informal Consultation Isn't  
Enough?



# Formal Consultation

A mandatory process for proposed projects that may adversely affect listed species/designated critical habitat to **determine** if an action:

- May **jeopardize** the continued existence of a **listed species** or
- **Destroy or adversely modify critical habitat**

# Formal Consultation

- Duration: 90 days for formal consultation; 45 days to prepare biological opinion = 135 days total following complete initiation package.
- Concludes with issuance of biological opinion.

## Section 7(a)(2)

### Biological Opinion

50 CFR 402.14(h)- A biological opinion shall include:

- (1) A summary of the information on which the opinion is based;
- (2) A detailed discussion of the effect of the action on listed species or critical habitat ; and
- (3) The Service's opinion on whether the action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat.

# Northern Flying Squirrel



# Sections of a Biological Opinion

## CONSULTATION HISTORY

## BIOLOGICAL OPINION

## DESCRIPTION OF THE PROPOSED ACTION

Action Area

## STATUS OF THE SPECIES AND CRITICAL HABITAT RANGEWIDE

Species/Critical Habitat Description and Life History

Population Dynamics

Status and Distribution



# Sections of a Biological Opinion (cont.)

## ENVIRONMENTAL BASELINE

Status of the Species within the Action Area

Factors Affecting Species Environment within the Action Area

## EFFECTS OF THE ACTION

Direct Effects

Indirect Effects

Beneficial Effects

Interrelated and Interdependent Actions

## CUMULATIVE EFFECTS

## CONCLUSION



# Biological Opinion (cont.)

**INCIDENTAL TAKE STATEMENT**

**AMOUNT OR EXTENT OF TAKE ANTICIPATED**

**EFFECT OF THE TAKE**

**REASONABLE AND PRUDENT MEASURES**

**TERMS AND CONDITIONS**

**CONSERVATION RECOMMENDATIONS**

**REINITIATION NOTICE**



# Biological Opinion

## CONSULTATION HISTORY

- Pertinent correspondence, conference calls, meetings, field visits, etc.
- Prior formal consultations on the action
- Documentation of the date consultation was initiated
- Requests for additional data
- Extensions
- Other applicable past or current actions



# Biological Opinion



## Consultation History Example

- 09-03-10 Letter from Acme Consultants notifying the Service of the proposed project.
- 10-19-10 Corps letter to the Service concluding that the proposed project may affect the Roanoke logperch and requesting initiation of formal consultation.
- 12-20-10 Service letter to Corps requesting additional project information.

# Biological Opinion

## DESCRIPTION OF THE PROPOSED ACTION

- Project Description
- Action Area



# Biological Opinion

## DESCRIPTION OF THE PROPOSED ACTION

**Project Description** - A comprehensive project description in the biological opinion is **vital** to determining the scope of the proposed action. It is difficult to write a biological opinion without a complete project description. **Very little** can be left to the contractor's discretion.

**Why?**

# DESCRIPTION OF THE PROPOSED ACTION

## Project Description

The biological opinion is used to analyze project effects on listed species/critical habitat. The analyses are largely based on the project description. If the project description is not accurate, any variation could undermine the analyses and the associated jeopardy/non-jeopardy or destruction/adverse modification determination. If the project description changes or was not accurate, work could be halted and reinitiation could be necessary.

# Example: Need More Information



The Service has not received all of the information necessary to initiate formal consultation as outlined in the regulations governing interagency consultation (50 CFR 402.14). To complete the initiation package, we require the following information:

- A plan view with the proposed design, location, and specifications of the cofferdam at the site. Include a description of how the cofferdam will be constructed.
- A description and location of the dewatering structure that will be used and how it will be operated.
- The location of the proposed riprap. Provide amount of permanent or temporary impacts in square feet above and below ordinary high water. Provide amount of excavation, if any, for the placement of riprap.

# Example: Need More Information

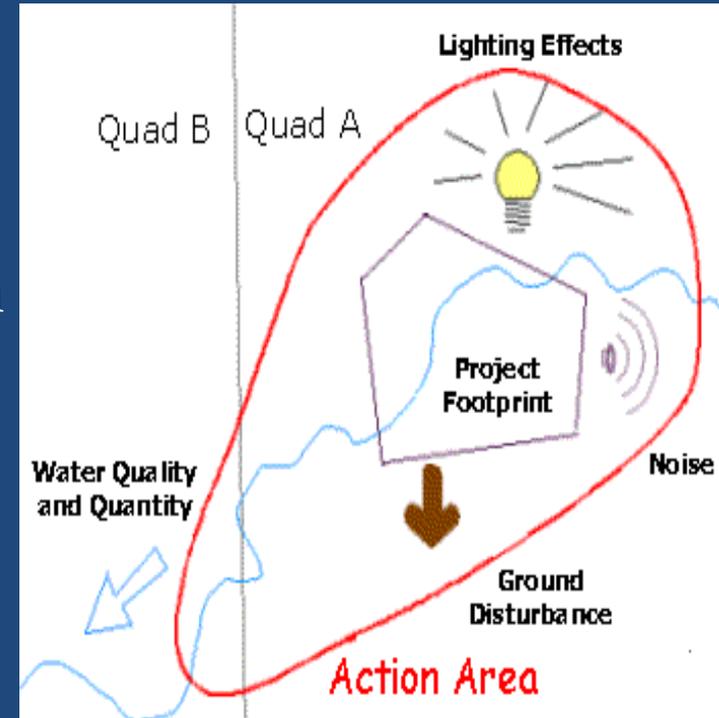
- Amount and type of impact in square feet in upland areas (staging areas, grading, fill, vegetation clearing, etc). Provide square footage of woody vegetation removal, if any.
- Anticipated proposed construction schedule, including start and end date. Indicate if construction will occur during the reproductive season of the listed species.

# Biological Opinion

## DESCRIPTION OF THE PROPOSED ACTION

### Defining the Action Area

**Action Area** - The action area should be determined based on consideration of all direct and indirect effects of the proposed agency action [50 CFR 402.02 and 402.14(h)(2)].



# Biological Opinion

## STATUS OF THE SPECIES AND CRITICAL HABITAT RANGEWIDE

- **Species/Critical Habitat Description**
- **Life History**
- **Population Dynamics**
- **Status and Distribution**



# Biological Opinion

## STATUS OF THE SPECIES AND CRITICAL HABITAT RANGEWIDE

### Species Description

- legal status of the species
- listing history
- current known range of the listed species



# Biological Opinion

## STATUS OF THE SPECIES AND CRITICAL HABITAT RANGEWIDE

### Life history

A large number of life history variables are relevant to **jeopardy analyses**. **These variables** help determine a species' population size, age distribution, sensitivity to a proposed action's effects, ability to recover from adverse effects, and ability to recolonize areas from which it has been extirpated.

# STATUS OF THE SPECIES AND CRITICAL HABITAT RANGEWIDE

## Population Dynamics

The size of a population and its natural variance over time are important characteristics affecting the **species' response to disturbance factors.**



# STATUS OF THE SPECIES AND CRITICAL HABITAT RANGEWIDE

## Population Dynamics

**Population size:** This species characteristic is often emphasized in consultations. **Reduction in population size may jeopardize the continued existence of threatened or endangered species** because the longer a species remains at low population levels, the greater the probability of extinction from chance events, inbreeding depression, or additional environmental disturbance.

## STATUS OF THE SPECIES AND CRITICAL HABITAT RANGEWIDE

### Population Dynamics (cont.)

**Population variability:** Fluctuations in a species' population over time can affect significantly the probability of its extinction.

**Population stability:** Population stability is the ability of a species' population to resist change or dramatic fluctuations over time.

# STATUS OF THE SPECIES AND CRITICAL HABITAT RANGEWIDE

## Status and Distribution

Information on the status and distribution of listed species and designated critical habitat helps establish the environmental basis for a consultation.

### Why?

Reasons for listing: The reasons for listing a species or designating critical habitat are important considerations. For example, a species listed because of commercial exploitation may be less sensitive to habitat loss than a species listed because of habitat loss.

# STATUS OF THE SPECIES AND CRITICAL HABITAT RANGEWIDE

## Status and Distribution (cont.)

**Rangewide Trend:** Many listed species are declining throughout their range, therefore the overall population trend of a species has implications for new proposals that could result in additional effects on the species.

**New Threats:** Often, **factors not considered when a species was first listed** can threaten its continued existence, and must be considered when establishing the environmental baseline.

# STATUS OF THE SPECIES AND CRITICAL HABITAT RANGEWIDE



## Critical Habitat:

- extent of the designated critical habitat
- the primary constituent elements identified in the final rule
- activities that could alter the primary constituent elements

# Biological Opinion

## ENVIRONMENTAL BASELINE



- Status of the Species within the Action Area
- Factors Affecting Species Environment within the Action Area

# ENVIRONMENTAL BASELINE

## Status of the Species within the Action Area

- the percent or amount of the species range or designated critical habitat in the action area;
- information from past and recent species surveys in the action area;
- the distribution of the affected and unaffected habitat and any information on habitat quality; and
- if critical habitat will be impacted, the effect on the primary constituent elements.

# ENVIRONMENTAL BASELINE

## Factors Affecting Species Environment within the Action Area

State, tribal, local, and private actions already affecting the species or that will occur contemporaneously with the consultation in progress



Photo credit: USGS - Noel Burkhead

# Biological Opinion



## EFFECTS OF THE ACTION

Direct effects

Indirect effects

Beneficial effects

Interrelated and interdependent actions

## EFFECTS OF THE ACTION

**Direct effects:** the **immediate effects** of the project on the species or its habitat (e.g., driving a vehicle through a ford where an endangered mussel has been found)



# EFFECTS OF THE ACTION

**Indirect effects:** Caused by or result from the proposed action, are later in time, and are reasonably certain to occur

## **Examples:**

- Sedimentation from bridge scour
- Increased nutrient levels from upland runoff after development construction

# EFFECTS OF THE ACTION

**Beneficial effects:** Those effects of an action that are wholly positive, without any adverse effects, on a listed species or designated critical habitat.

# EFFECTS OF THE ACTION

## **Interrelated and interdependent**

**actions:** The analysis of whether other activities are interrelated to, or interdependent with, the proposed action under consultation should be conducted by applying a “**but for**” test. The biologist should ask whether another activity in question would occur “but for” the proposed action under consultation.

# CUMULATIVE EFFECTS

The effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area.

# Biological Opinion Conclusions

- Likely/Not likely to jeopardize the continued existence of one or more species.
- Likely/Not likely to result in destruction or adverse modification of critical habitat.



# Jeopardy



“Jeopardize the continued existence of” [as in ESA § 7(a)(2)] means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, number, or distribution of that species (50 C.F.R. § 402.02).

# Destruction or Adverse Modification of Critical Habitat

A direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical (50 CFR 402.02).

# Conclusions

*Is likely to jeopardize species/  
adversely modify critical habitat*

- The appropriate conclusion when the action agency or the Services identify situations in which the proposed action is likely to jeopardize the continued existence of the species or destroy/ adversely modify the critical habitat.
- If jeopardy/adverse modification, then Reasonable and Prudent Alternatives (RPAs).

# Reasonable and Prudent Alternatives

- A recommended alternative action identified during formal consultation that can be implemented in a manner consistent with the intended purpose of the action
- That can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction
- That is economically and technologically feasible
- That the Service(s) believes would not jeopardize the continued existence of listed species or result in the destruction or adverse modification of designated critical habitat.

# Biological Opinion

## INCIDENTAL TAKE STATEMENT

- AMOUNT OR EXTENT OF TAKE ANTICIPATED
- EFFECT OF THE TAKE
- REASONABLE AND PRUDENT MEASURES
- TERMS AND CONDITIONS



# Incidental Take Statement

## AMOUNT OR EXTENT OF TAKE ANTICIPATED

This section outlines the amount of take anticipated from the action. Generally, incidental take is expressed as the number of individuals reasonably likely to be taken or the extent of habitat likely to be destroyed or disturbed.

**Must be measurable** whether numbers of individuals, area(acres), change in habitat quality.

# Incidental Take Statement

## Effect of the Take

How “Incidental Take”  
relates to “Jeopardy”



# Incidental Take Statement

## REASONABLE AND PRUDENT MEASURES

An action that the Service believes necessary or appropriate to minimize the impacts (the amount or extent) of incidental take caused by an action that was subject to consultation.



# Incidental Take Statement

## TERMS AND CONDITIONS

Required actions described in an Incidental Take Statement intended to implement the Reasonable and Prudent Measures . Must include reporting and monitoring requirements that assure adequate action agency oversight of any incidental take [50 CFR §402.14(i)(1)(iv) and (i)(3)]. The monitoring must be sufficient to determine if the amount or extent of take is approached or exceeded, and the reporting must assure that the Services will know when that happens.

# TERMS AND CONDITIONS

## Examples

- Vehicles or construction equipment may not enter Glade Creek.
- Pumpout water from cofferdams must be released into a sediment basin, filter bag, or other structure that will remove suspended sediment prior to discharge of water into Glade Creek. Water must be discharged from this structure to a well-vegetated area placed at a location that will prevent sedimentation.
- All exposed soil must be seeded with grasses as soon as final grade is completed and/or the same day the equipment is removed from the site. Areas must be stabilized with erosion control matting if weather conditions prevent revegetation.
- Silt fencing must be erected between all disturbed uplands that drain to Glade Creek and the Glade Creek OHW line. Disturbed uplands include excavated uplands and uplands used for parking, access, and staging.

# Conservation Recommendations

When the Services identify discretionary actions the action agency can implement, relevant to the proposed action and consistent with their section 7(a)(1) authority, voluntary conservation recommendations may be included as a separate item in the consultation package.



# Conservation Recommendations

## Remember 7(a)(1)

"All other Federal agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species. . ." Section 7(a)(1) of the Endangered Species Act

# REINITIATION NOTICE



Section 7 regulations outline four general conditions for reinitiating formal consultation: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the action is modified in a manner causing effects to listed species or critical habitat not previously considered; (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

# End of Biological Opinion

## End of Formal Consultation



# Quiz

1. True or False – The section of a biological opinion entitled, “Conservation Recommendations” is non-binding and includes opportunities for the lead Federal agency to satisfy its responsibilities under Section 7 (a)(1) of the ESA.
2. True or False - The Section 7 (a)(2) consultation process is at least partially designed to be a cooperative endeavor between the applicant, the Federal lead, and the Service to design a project that meets the applicant’s needs and conserves federally-listed species.
3. When a federally listed threatened species may be adversely affected by a project Section 7 consultation is required. Is this also the case for federally proposed and candidate species?

# Quiz



4. True or False - Formal consultation is intended to delay construction activities and encourage applicants to abandon their construction proposals.
5. True or False – The Service must use the “**Best Scientific and Commercial Data Available.**” Where such data are lacking, the Service must give the benefit of the doubt to the species.
6. True or False – Over 25% of all biological opinions in Virginia end with a conclusion of “jeopardy” of a listed species and/or “destruction or adverse modification of critical habitat.”
7. True or False – According to Section 7 of the ESA, the Service is exempt from the formal consultation process for its own projects.

