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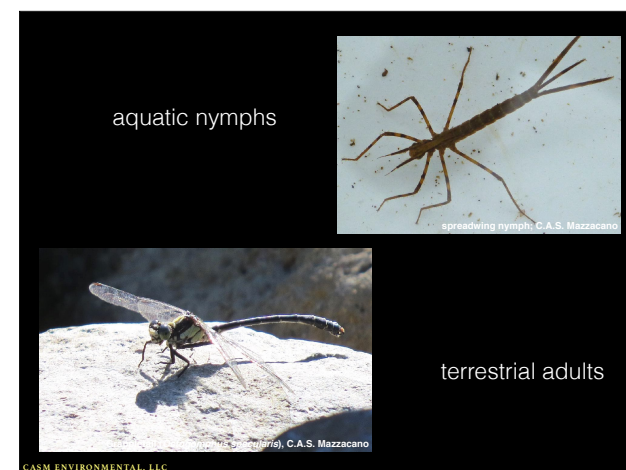
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Cardinal Meadowhawk (*Sympetrum illotum*), CASM

Vivid Dancer (*Argia vivida*), CASM

large body, wider abdomen


eyes touch or nearly so

hindwings broader than forewings

wings horizontal when perched

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Cardinal Meadowhawk (*Sympetrum illotum*), CASM

Vivid Dancer (*Argia vivida*), CASM

large body, wider abdomen

eyes touch or nearly so

broader hindwings

wings horizontal when perched

small body, slender abdomen

eyes separated

equal-sized wings


wings folded when perched

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stout, jet-propelled dragonfly nymphs

slender, minnow-like damselfly nymphs



TROUTNUT.COM

PRESENTS

Damselfly nymph swimming


internal gill chamber

external gill lamellae


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predators as nymphs...



Paddle-tailed Darner with prey, C.A.S. Mazzacano




dragonfly nymph, C.A.S. Mazzacano

...and as adults

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nymphs use hinged, toothed, extendible "lower lip" (labium) to catch prey



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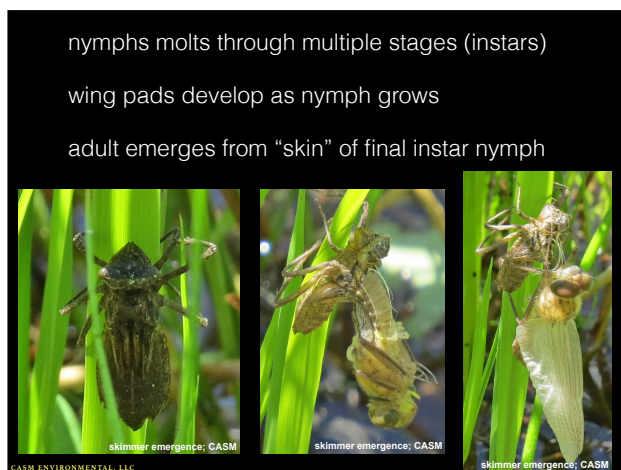
11

adults use basket-like legs to catch prey & bring it to mouth

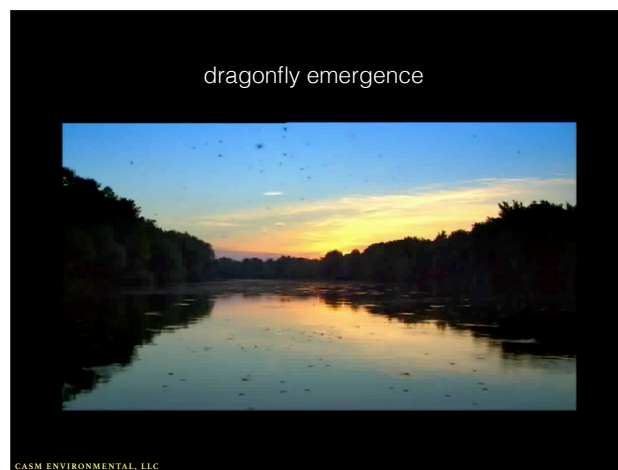


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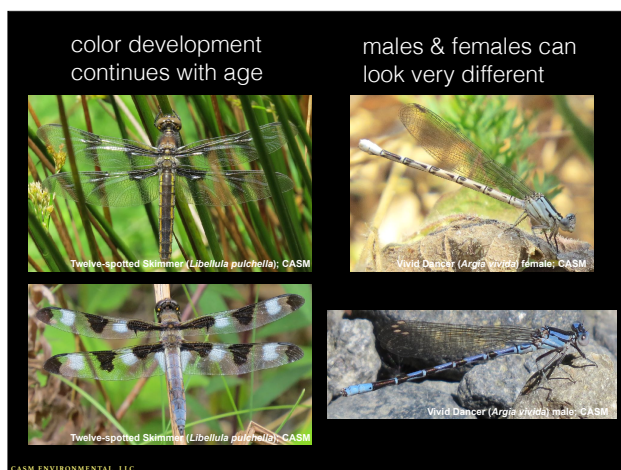
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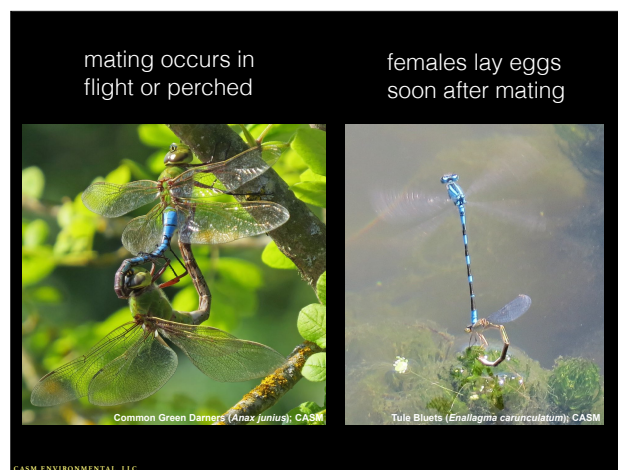
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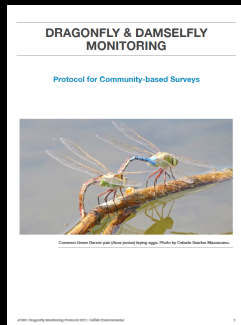


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Odonate Resources



project-specific

QUICK GUIDE TO DAMSELFLY & DRAGONFLY FAMILIES

Most useful features for identification

	Damselfly (pg. 3)	Dragonfly (pg. 4-6)
Head	eye color, ocelli	eye color & shape, color & markings on face (1 spot, line)
Thorax	shape & color of stripes on top & sides	presence, shape, and color of stripes on top & sides
Abdomen	color, markings on top, esp. S2 and S8-S10	color, markings on top, esp. S2 and S8-S10; presence of "bar" at the end
Wings	color & shape of stigma, orientation when perched	color of wing bases, veins, and stigma; color & shape of wing spots, bands, or patches
Legs	color	color

Forewings & hindwings similar in size & shape; held together over abdomen or so close they partly overlap when perched, veins widely separated (i.e., by the width of the head)

Damselfly

Hindwings broader than forewings; wings held out horizontally when perched, veins close at base of head or slightly separated (i.e., by less than the width of the head)

Dragonfly

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regional



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www.dragonflysocietyamericas.org

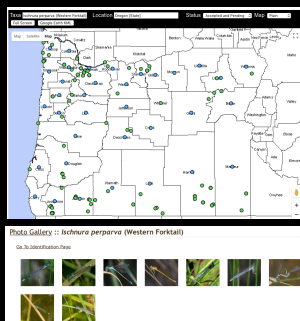
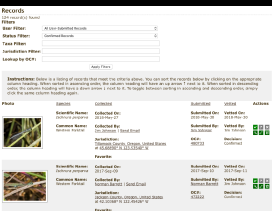


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www.odonatacentral.org



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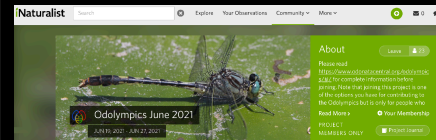
Facebook



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Odolymphics 2021



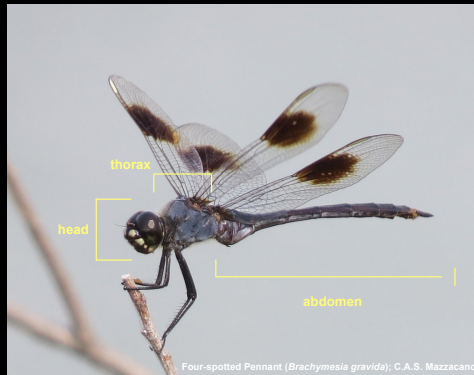
can submit data via iNaturalist project but must also register as user on OdonataCentral



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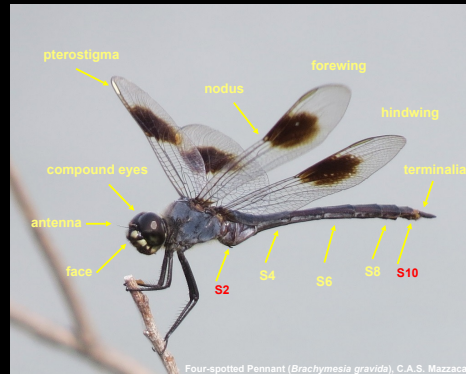
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Odonate Identification



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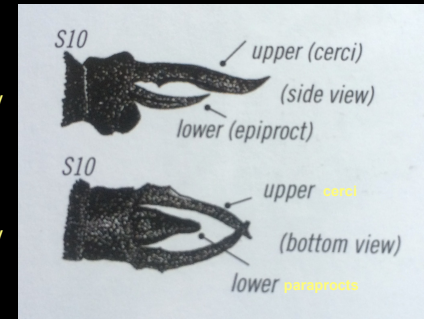


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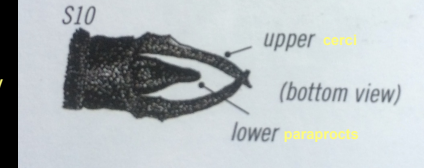
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male terminal appendages

dragonfly



damselfly



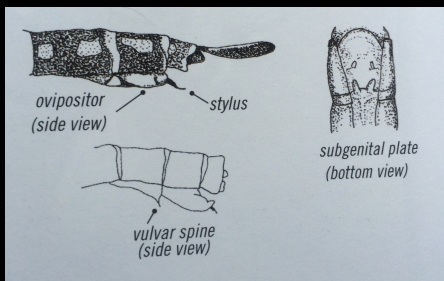
Dragonflies & Damselflies of Oregon; Cary Kerst & Steve Gordon

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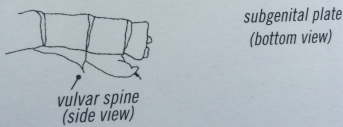
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female terminal appendages

dragonfly



damselfly



Dragonflies & Damselflies of Oregon; Cary Kerst & Steve Gordon

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Dragonflies: darners, skimmers, emeralds, cruisers, clubtails, spiketails, petaltails



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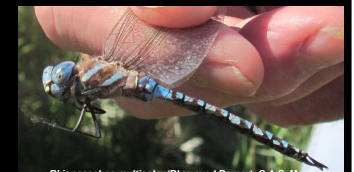
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Darners (Aeshnidae)

Green (*Anax*), Mosaic (*Aeshna*), Neotropical (*Rhionaeschna*)

big; blue, green, brown

large eyes touch along long seam



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Common Green Darner
(*Anax junius*)

green thorax, no stripes

blue or brownish abdomen

black "bull's eye"
on top of face

migratory




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Mosaic Darners (*Aeshna*)

brown with blue/green markings

ID by shape and color of
thoracic stripes; male cerci;
abdominal spots





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Paddle-tailed Darner (*A. palmata*)

thoracic stripes broad, greenish
to blue, straight to slightly wavy

black line on face

blue spots on top of abdomen,
inc. S10; none below abdomen

paddle-shaped cerci
with spiked tip

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Variable Darner (*A. interrupta*)

thoracic stripes blue, narrow,
may be broken/interrupted

blue spots on top of
abdomen, inc. S10;
none below abdomen

black line on face

simple cerci

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Shadow Darner (*A. umbrosa*)

thoracic stripes green,
narrow rearward extension
at top

small blue spots on top of
abdomen except S10;
spots below abdomen

no black line on face

paddle-shaped cerci,
spike at lower end



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Neotropical Darners
(*Rhionaeschna*)

similar to *Aeshna* but
eyes bluer, tubercule
under S1

ID by shape of thoracic
stripes; male cerci

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Blue-eyed Darner (*R. multicolor*)

sky-blue face & eyes;
no black facial line

broad, straight, pale
blue, thoracic stripes

blue spots on top of
abdomen, inc. S10;
none below abdomen

cerci forked at tips



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California Darner (*R. californica*)

eyes blue above, brown below

black facial line

thoracic stripes narrow, pale
blue, straight, black border;
front stripe narrows at top

blue spots on top of abdomen,
inc. S10; none below abdomen

simple cerci



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Skimmers (*Libellulidae*)

King skimmers (*Libellula*),
meadowhawks (*Sympetrum*),
whitefaces (*Leucorrhinia*), others

large, sturdy, colorful,
often with patterned wings

large eyes touch along seam

widespread, common



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King skimmers (*Libellula*)

patterned wings

males & older females
develop pruinosity



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King skimmers (*Libellula*)

Twelve-spotted (*L. pulchella*) has 3 black
spots on each wing

yellow stripe along
side of abdomen



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King skimmers (*Libellula*)

Four-spotted Skimmer
(*L. quadrimaculata*): hairy,
brown, black-tipped
abdomen; dark spot
at each wing nodus

Flame Skimmer
(*L. saturata*):
red-orange; wings
with orange wash





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King Skimmers (*Libellula*)

Widow Skimmer (*L. luctuosa*): broad black patch along basal portion of all wings

yellow stripe on female thorax splits along abdomen

C.A.S. Mazzacano

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Common Whitetail (*Plathemis lydia*)




P. lydia has broken yellow dashes along abdomen;
L. pulchella has line



C.A.S. Mazzacano

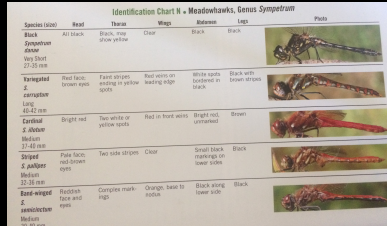
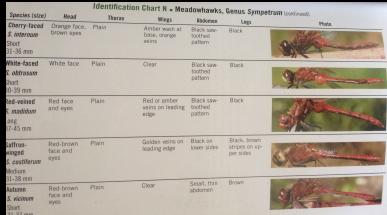
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Meadowhawks (*Sympetrum*)

small, reddish, perchers

ID by thoracic & abdominal patterns

Dragonflies & Damselflies of Oregon:
Cary Kerst & Steve Gordon

C.A.S. Mazzacano

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Meadowhawks (*Sympetrum*)





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Meadowhawks (*Sympetrum*)








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Variegated Meadowhawk (*S. corruptum*) is migratory

C.A.S. Mazzacano

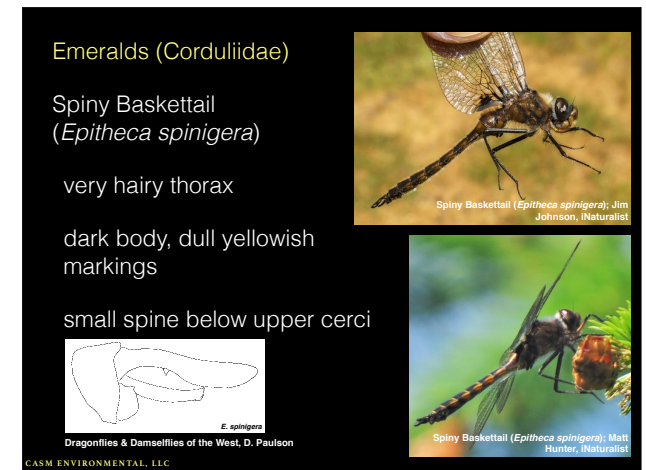
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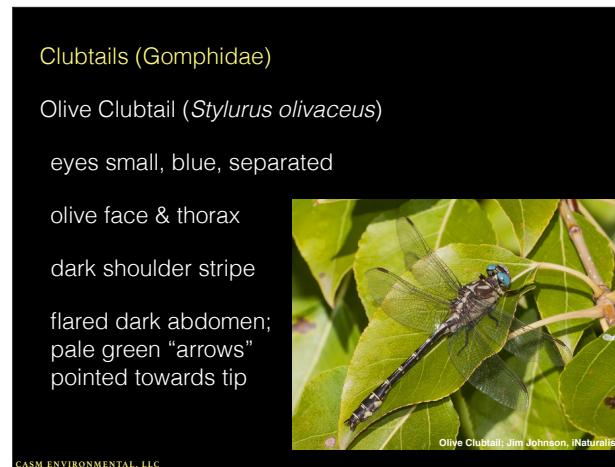
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Damselflies: broad-winged,
spreadwings, pond damsels



Spreadwings (Lestidae)

wings spread when perched
large; long leg spines
males pruinose, metallic above
(*Lestes*)



ID *Lestes* based on
appendages, pruinosity

Emerald Spreadwing
(*L. dryas*)

thorax metallic green above

stocky body

tips of medium-long
paraprocts point inwards



Dragonflies & Damselflies of the West,
Dennis Paulson

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Spotted Spreadwing
(*L. congener*)

thorax brown & white

small dark spots under
thorax

short paraprocts



Dragonflies & Damselflies of the West,
Dennis Paulson

Lyre-tipped Spreadwing
(*L. unguiculatus*)

thorax with blue stripes,
pruinose

bi-colored stigmas

lyre-shaped paraprocts



Dragonflies & Damselflies of the
West, Dennis Paulson

Pond Damsels (Coenagrionidae)

Dancers (*Argia*)

blue, lavender, black

bouncy flight

perch with wings
above abdomen

long leg spines



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Bluets (*Enallagma*)

blue & black

S10 black on top

perch with wings along abdomen

shorter leg spines



Tule Bluets (*Enallagma carunculatum*); C.A.S. Mazzacano



Northern/Boreal Bluet male (*Enallagma annexum/boreale*); C.A.S. Mazzacano

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Bluets (*Enallagma*)

Tule Bluet (*E. carunculatum*): male abdomen more black than blue; tubercle at end of male cerci



Tule Bluet (*Enallagma carunculatum*) male; C.A.S. Mazzacano



Northern Bluet male (*Enallagma annexum*); C.A.S. Mazzacano

Northern/Boreal Bluet (*E. annexum/boreale*): male abdomen more blue than black

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Bluets (*Enallagma*)

Alkali Bluet (*E. clausum*): amount of black vs. blue increases towards tip of abdomen; black stripe on top if S10; more often in alkaline lakes but can also inhabit freshwater



Alkali Bluet (*Enallagma clausum*) male; Jim Johnson/Naturalist



Alkali Bluet (*Enallagma clausum*) male; Jim Johnson/Naturalist

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Forktails (*Ischnura*)

thorax green or blue

male abdomen black with blue tip

S10 has forked projection



Pacific Forktail male (*Ischnura cervula*); C.A.S. Mazzacano



Pacific Forktail female (*Ischnura cervula*); C.A.S. Mazzacano

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Pacific Forktail (*I. cervula*):

4 blue dots on top of male thorax

female thorax pink/blue when young, becomes dull/dusky with age



Pacific Forktail male (*Ischnura cervula*); C.A.S. Mazzacano



Pacific Forktail female (*Ischnura cervula*); C.A.S. Mazzacano

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Western Forktail (*I. perparva*):

small; short wings

male thorax green-striped; blue at tip of abdomen edged in black

young females orange, pruinose when mature



Western Forktail male (*Ischnura perparva*); C.A.S. Mazzacano



Western Forktail female (*Ischnura perparva*); C.A.S. Mazzacano

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Red Damsels (*Amphiagrion*)

small; short abdomen

males red with black;
females orange



Western Red Damsel male (*Amphiagrion abbreviatum*); C.A.S. Mazzacano

C.A.S. Mazzacano

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Broad-winged Damsels (*Calopterygidae*)

River Jewelwing (*Calopteryx aequabilis*)

broad, colored wings

wings not stalked,
may lack stigma

metallic body



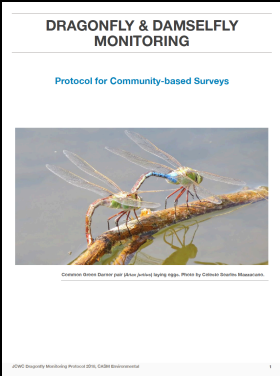
River Jewelwing female (*Calopteryx aequabilis*); C.A.S. Mazzacano

River Jewelwing male (*Calopteryx aequabilis*); Jim Johnson, Naturalist

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Monitoring Protocol



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Monitoring Protocol

Timing

once every ~14 days
during flight season

plan schedule
with team



Dennis Deck, volunteer; C.A.S. Mazzacano

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When should you survey?

Time range	10:00 am - 4:00 pm			9:30 am - 4:30 pm	
Temperature	< 59°F (15°C)	59-65°F (15-18°C)	65-75°F (18-24°C)	>75°F (24°C)	>88°F (31°C)
Cloud cover >60%	No	No	Yes	Yes	No
Cloud cover <60%	No	Yes	Yes	Yes	No
Windy (small tree branches swaying)	No	No	No	No	No
Rain	No	No	No	No	No

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Safety considerations:

don't work alone

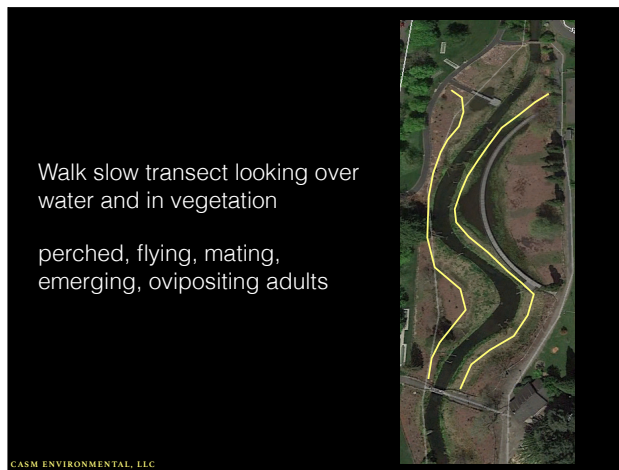
look before you step (nutria tunnels, mud, blackberry, downed logs, trash, dead ducks, wasp nests, etc.)

stay hydrated

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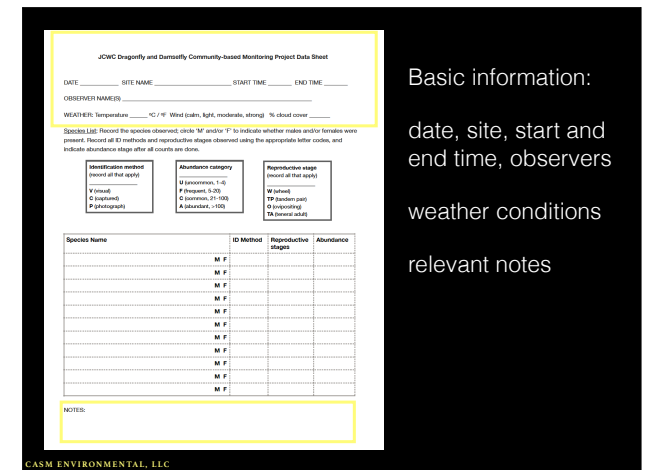
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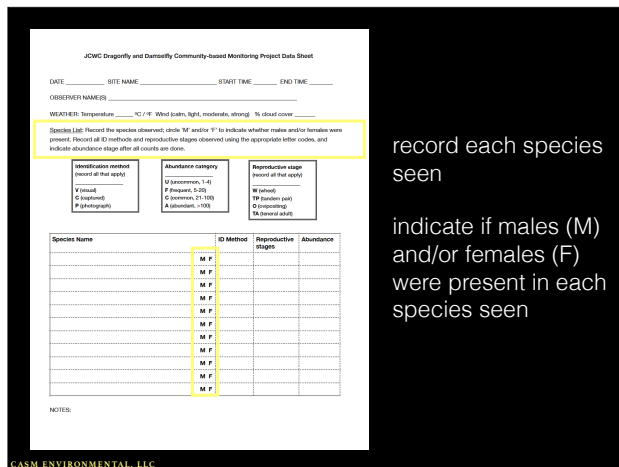
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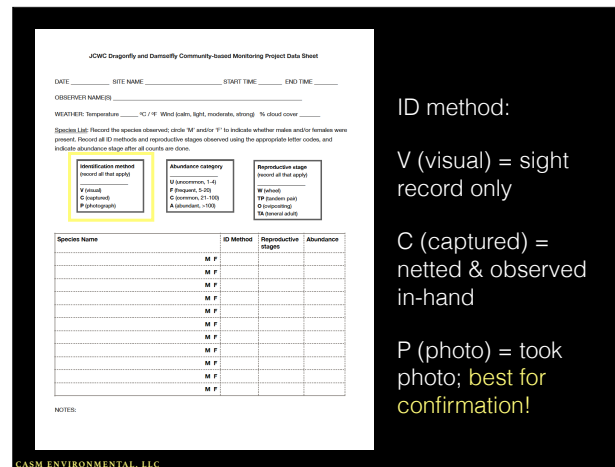
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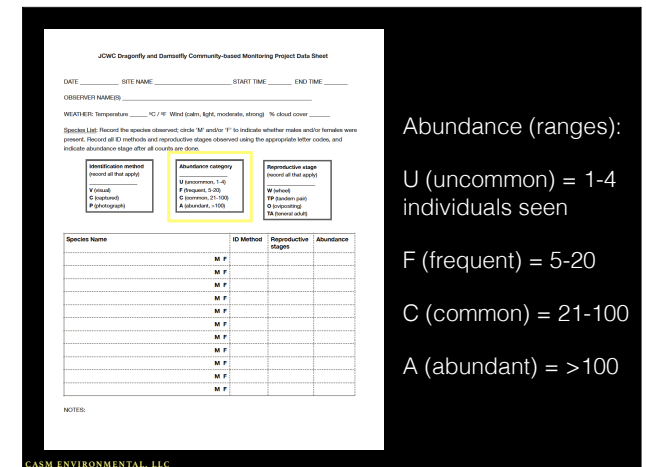
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TA (teneral adult) = newly-emerged

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Searles Mazzacano_JCWC Citisci training 2021 - May 20, 2021



Searles Mazzacano_JCWC Citsci training 2021 - May 20, 2021


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pazzacano_JCWC Citsci training 2021 - May 20, 2021

do not submit multiple
records for different sexes
of the same species seen
on the same day

Observation Fields (11)
 Abundance Category:
 F (frequent, 5-20)
 Cloud Cover (%): 6
 End time: 16:00
 ID Method:
 V.P.
 Notes:
 overlook wetland area dryer than usual, creek higher, banks in poorer
 condition than last year; much more teasel, reed canary grass, and blackberry
 than last year
 Observer(s) Name(s):
 Celeste Seawles Mazzarano
 Reproductive Stage:
 TA
 Sex of specimen:
 M, F
 Start time: 15:22
 Temperature (F): 67
 Wind movement:
 light

[illegible]


[Explore](#)
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[Community](#)
[Identity](#)
[Store](#)

[Help](#)

[FAQ](#)
[Getting Started](#)
[What's New](#)
[Community Guidelines](#)
[Privacy Guide](#)
[Helping Friends](#)
[Mobile Guide](#)
[Account Guide](#)
[Join or Postcard](#)

Howdy. If you're just getting started with iNaturalist, check out [Getting Started](#) guide to tour some of the site's features. If you have a question about the site, please peruse the [FAQ](#) below. If you're still looking for answers, please email us at [help@iaturalist.org](mailto:help@iNaturalist.org) or post your question in our [Simple Forum](#).

Frequently Asked Questions

General


- What is iNaturalist?
- What is a postcard?
- What information and data sources does this project use?
- What can I do here?
- How do I use the app?
- How do I use the website and the content?
- What is a suggested observation content?
- What's the plan for the future?

Observations


- What is an observation?
- What is an identification?
- Why doesn't iNaturalist recognize the name I entered?
- How can I help identify a species?
- What happens if I see the same species twice?
- Can I get points without a photo on my observation?
- What are my observation fields, and what's important?
- Can I see the data that observations in my website or app?
- How can I photograph a species that is not in the iNaturalist Catalog?

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By iNaturalist, LLC
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[View on iTunes](#)

 This app is designed for both iPhone and iPad

Free





Red-veined Meadowhawk (*Sympetrum madidum*) male; CASM

Questions?

Celeste A. Searles Mazzacano
cmazzacano@gmail.com



Common Whitetail (*Plathemis lydia*) female; CASM



Tule Bluet (*Enallagma cyathigerum*); CASM

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