

# Community-based dragonfly & damselfly monitoring in Johnson Creek watershed



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Johnson Creek Watershed Council  
Volunteer training  
11 June 2022

Western Pondhawk C.A.S. Mazzacano

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# Goals

- understand main elements of odonate ecology
- distinguish genders, life stages, and behaviors
- recognize common species in the watershed
- learn key components for identification
- know monitoring protocol and reporting methods

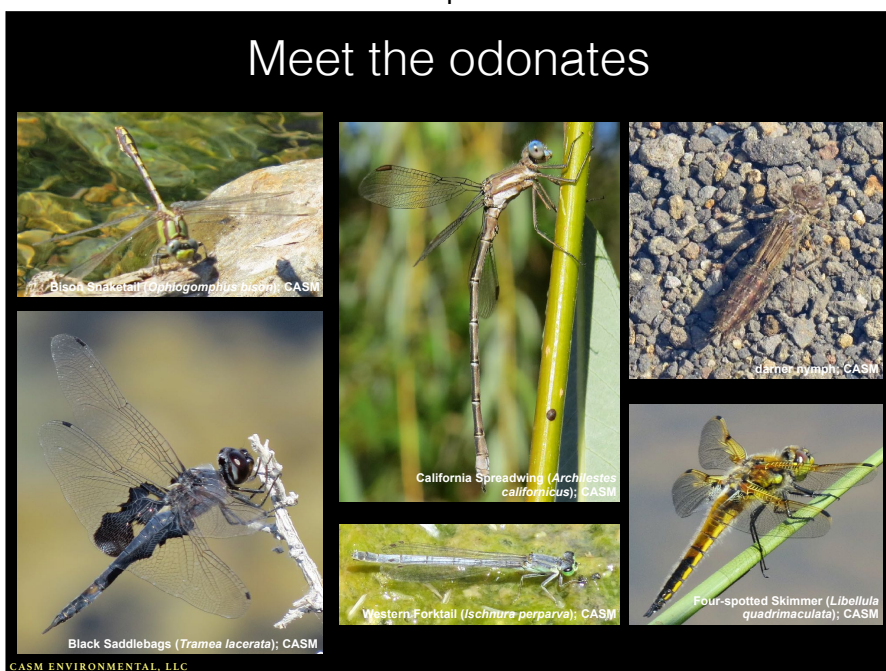


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Cardinal Meadowhawk male; CASM

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# Meet the odonates



Bismarck Spiketail (*Orthogomphus bisoni*); CASM

California Spreadwing (*Archilestes californicus*); CASM

damselfly nymph; CASM

Black Saddlebags (*Tameia lacerata*); CASM

Western Forktail (*Isonura perparva*); CASM

Four-spotted Skimmer (*Libellula quadrimaculata*); CASM

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>5952 species in the world

521 spp. in North America

93 spp. in Oregon

44 spp. in Multnomah Co.



Variable Darner (*Aeshna interrupta*); C.A.S. Mazzacano

Desert Whitetail (*Plathemis subornata*); C.A.S. Mazzacano

White-belted Ringtail (*Erpetogomphus compositus*); C.A.S. Mazzacano

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5 species in North America are annual long-distance migrants:

Common Green Darner  
Variegated Meadowhawk  
Black Saddlebags  
Wandering Glider  
Spot-winged Glider



Variegated Meadowhawk (*Sympetrum corruptum*), CASM



Black Saddlebags (*Tramea lacerata*), CASM

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aquatic nymphs



spreadwing nymph, CASM



spreadwing (Zygoptera), CASM

terrestrial adults

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Cardinal Meadowhawk (*Sympetrum illotum*), CASM



Vivid Dancer (*Argia vivida*), CASM

Dragonfly vs. damselfly

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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



internal gill chamber

Damselfly  
nymph  
swimming

external gill lamellae

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predators as nymphs...



Paddle-tailed Darner with prey; CASM



dragonfly nymph; CASM

...and as adults

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



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

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nymphs molts through multiple stages (instars)  
wing pads develop as nymph grows  
adult emerges from “skin” of final instar nymph



skimmer emergence; CASM



skimmer emergence; CASM



skimmer emergence; CASM

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dragonfly emergence



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teneral adult has soft body,  
pale color, weak flight



teneral Snaketail; CASM



Boreal Snaketail (*Ophiogomphus colubrinus*); CASM

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days to develop full color  
& sexual maturity

16



color development  
continues with age



Twelve-spotted Skimmer (*Libellula pulchella*); CASM



Twelve-spotted Skimmer (*Libellula pulchella*); CASM

males & females can  
look very different



Vivid Dancer (*Argia vivida*) female; CASM



Vivid Dancer (*Argia vivida*) male; CASM

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mating occurs in  
flight or perched



Common Green Darners (*Anax junius*); CASM

females lay eggs  
soon after mating



Tule Bluets (*Enallagma carunculatum*); CASM

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eggs inserted in plants,  
sediment, mud, or on water

female may be guarded by  
male or oviposit alone



Blue-eyed Darter (*Rhionaeschna multicolor*); CASM



Common Green Darners (*Anax junius*); CASM



Sooty Dancers (*Argia lugens*); CASM

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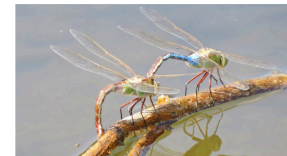
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## Odonate Resources

project-specific

### DRAGONFLY & DAMSELFLY MONITORING

#### Protocol for Community-based Surveys



Common Green Darner pair (Anax junius) laying eggs. Photo by CASM Environmental.

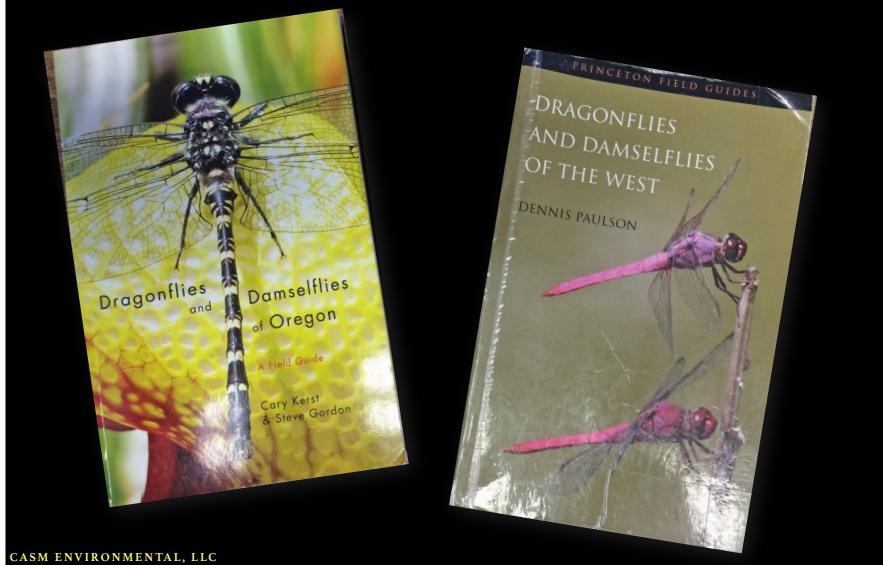
JCWC Odonate Monitoring Protocol 8/20, CASM Environmental

QUICK GUIDE TO DAMSELFLY & DRAGONFLY FAMILIES					
Most useful features for identification:					
	Damselfly (pg. 2)	Dragonfly (pg. 3-4)			
Head	eye color; spots/bars	eye color & shape; color & markings on face (T-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 "club" 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			
<div> <div> Forewings &amp; hindwings similar in size &amp; shape; held together over abdomen or no more than partly spread when perched; eyes widely separated (i.e., by the width of the head) </div> <div> Damselfly </div> <div> </div> </div> <div> <div> Hindwings broader than forewings; wings held out horizontally when perched; eyes meet at front of head or slightly separated (i.e., by less than the width of the head) </div> <div> Dragonfly </div> <div> </div> </div>					
<div> Vivid Dancer (<i>Argia vivida</i>); CAS Mazzacane </div> <div> Cardinal Meadowhawk (<i>Scytopygium alatum</i>); CAS Mazzacane </div>					

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regional



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National / International



[www.dragonflysocietyamericas.org](http://www.dragonflysocietyamericas.org)



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[www.odonatacentral.org](http://www.odonatacentral.org)

Records

224 records found

Filter:

User Filter: All User-Submitted Records 0

Status Filter: Confirmed Records 0

Topic Filter:

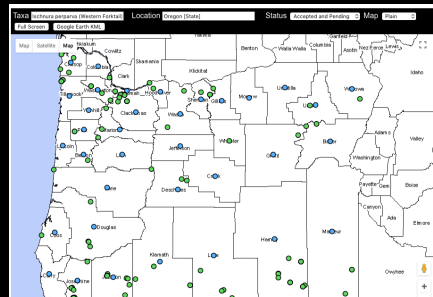
Identification Filter:

Lookup by OCF:

Apply Filter

Instructions: Below is a listing of records that meet the criteria above. You can sort the records table by clicking on the appropriate column heading. When sorted in ascending order, the records heading will have an up arrow. If sort is B, when sorted in descending order, the records heading will have a down arrow. To toggle between sorting in ascending and descending order, simply click the same column heading again.

Photo	Scientific Name	Collected On	Submitted On	Verified On	Actions
	<i>Ischnura perparva</i>	2019-Nov-27	2019-May-26	2019-May-26	<a href="#">View</a> <a href="#">Edit</a>
	<i>Ischnura perparva</i>	2019-Nov-27	2019-May-26	2019-May-26	<a href="#">View</a> <a href="#">Edit</a>



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[www.odonatacentral.org](http://www.odonatacentral.org)



New Phone App



The Odonata Central phone app allows you to easily enter complete checklists into Odonata Central from your phone. Available for both iOS and Android and supporting English, Spanish, Portuguese and French. Search for it in either the Apple or Google Store.

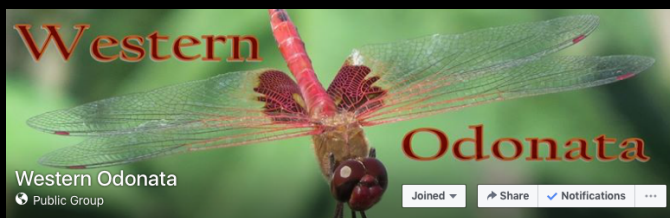
Use the Add Photos button on the website to easily add photos to checklists created in the field with the app.

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## Facebook



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## Odolympics 2022

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



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## Odonate Identification

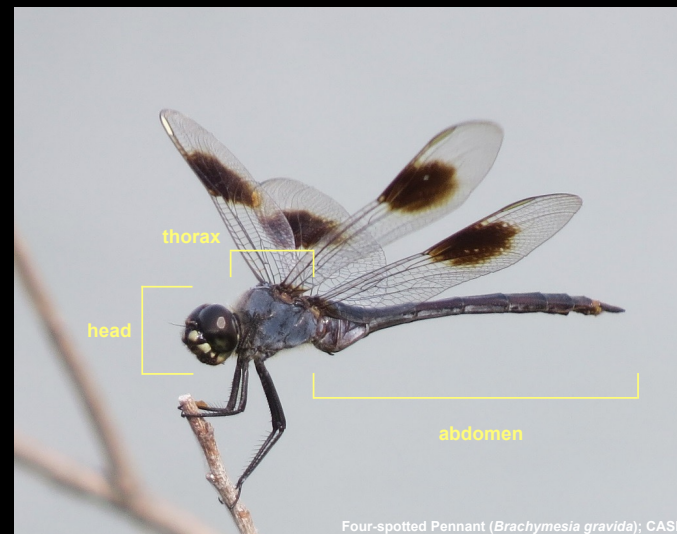


Four-spotted Pennant (*Brachymesia gravida*); CASM

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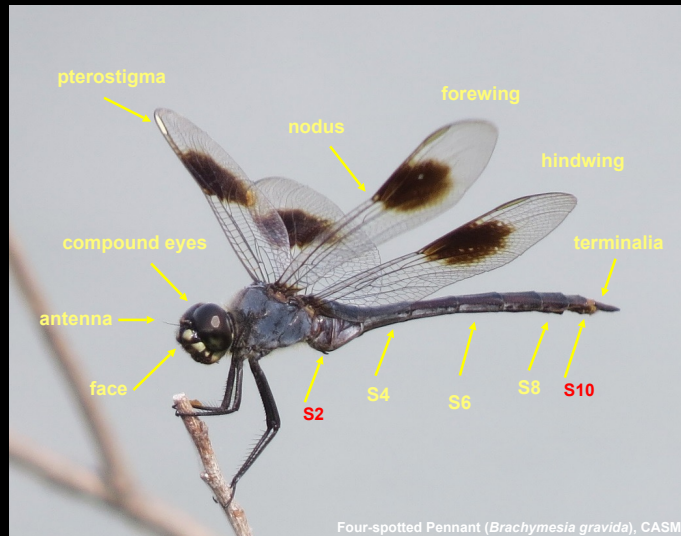
## Odonate Identification



Four-spotted Pennant (*Brachymesia gravida*); CASM

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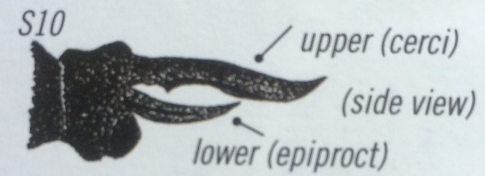
Four-spotted Pennant (*Brachymesia gravida*), CASM

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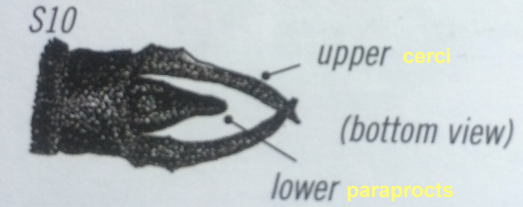
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## male terminal appendages

dragonfly



damselfly



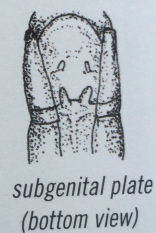
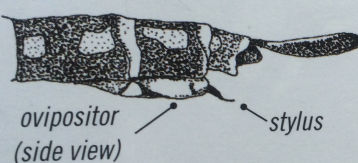
Dragonflies & Damselflies of Oregon; Cary Kerst & Steve Gordon

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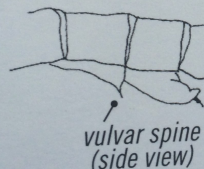
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## female terminal appendages

dragonfly



damselfly



Dragonflies & Damselflies of Oregon; Cary Kerst & Steve Gordon

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



Pale Snaketail male; CASM



Dot-tailed Whiteface male; CASM



Western River Cruiser male; Jim Johnson, iNaturalist



Blue-eyed Darter female; CASM



Chalk-fronted Corporal male; CASM

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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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## Mosaic Darners (*Aeshna*)

brown with blue/green markings

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



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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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## 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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### Neotropical Darners (*Rhionaeschna*)

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

ID by shape of thoracic  
stripes & male 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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### 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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## King skimmers (*Libellula*)

patterned wings

males & older females develop pruinosity



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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*)

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



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## Common Whitetail (*Plathemis lydia*)



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

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## Meadowhawks (*Sympetrum*)

small, reddish, perchers

ID by thoracic & abdominal patterns

Species (size)	Head	Thorax	Wings	Abdomen	Legs	Photo
<b>Black</b> <i>Sympetrum danse</i> Very Short 27-35 mm	All black	Black, may show yellow	Clear	Black	Black	
<b>Variagated</b> <i>S. corrugatum</i> Long 40-47 mm	Red face; brown eyes	Faint stripes ending in yellow spots	Red veins on leading edge	White spots bordered in black	Black with brown stripes	
<b>Cardinal</b> <i>S. medium</i> Medium 37-40 mm	Bright red	Two white or yellow spots	Red in front veins	Bright red, unmarked	Brown	
<b>Striped</b> <i>S. pallipes</i> Medium 32-36 mm	Pale face; red brown eyes	Two side stripes	Clear	Small black markings on lower sides	Black	
<b>Band-winged</b> <i>S. semicinctum</i> Medium 30-43 mm	Reddish face and eyes	Complex markings	Orange, base to nodus	Black along lower side	Black	

Species (size)	Head	Thorax	Wings	Abdomen	Legs	Photo
<b>Cherry-faced</b> <i>S. internum</i> Short 31-36 mm	Orange face, brown eyes	Plain	Amber wash at base, orange veins	Black saw-toothed pattern	Black	
<b>White-faced</b> <i>S. obtrusum</i> Short 30-39 mm	White face	Plain	Clear	Black saw-toothed pattern	Black	
<b>Red-veined</b> <i>S. madidum</i> Long 37-45 mm	Red face and eyes	Plain	Red or amber veins on leading edge	Black saw-toothed pattern	Black	
<b>Buff-winged</b> <i>S. costiferum</i> Medium 31-38 mm	Red-brown face and eyes	Plain	Golden veins on leading edge	Black on lower sides	Black, brown stripes on upper sides	
<b>Autumn</b> <i>S. vicinum</i> Short 31-37 mm	Red-brown face and eyes	Plain	Clear	Small, thin abdomen	Brown	

Dragonflies & Damselflies of Oregon;  
Cary Kerst & Steve Gordon

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## Meadowhawks (*Sympetrum*)



Cardinal Meadowhawk male (*Sympetrum illotum*); CASM



Red-veined Meadowhawk imm. male (*Sympetrum madidum*); C.A.S. Mazzacano



Autumn Meadowhawk male (*Sympetrum vicinum*); C.A.S. Mazzacano

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## Variegated Meadowhawk (*S. corruptum*) is migratory



Variegated Meadowhawk male (*Sympetrum corruptum*); CASM



Variegated Meadowhawk male (*Sympetrum corruptum*); CASM



Variegated Meadowhawk female (*Sympetrum corruptum*); CASM

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## Meadowhawks (*Sympetrum*)



Cherry-faced Meadowhawk imm. male (*Sympetrum internum*); CASM



Black Meadowhawk female (*Sympetrum danae*); CASM



Striped Meadowhawk male (*Sympetrum pallipes*); CASM

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Blue Dasher female (*Pachydiplax longipennis*); CASM



Western Pondhawk female (*Erythemis collocata*); CASM



Blue Dasher male (*Pachydiplax longipennis*); CASM



Western Pondhawk male (*Erythemis collocata*); CASM

male Blue Dashers have green eyes & white face

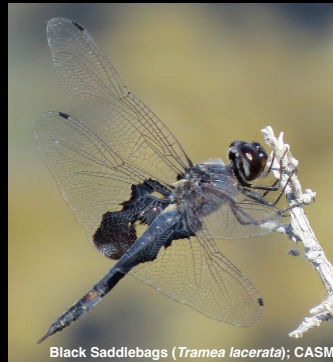
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Black Saddlebags (*Tamea lacerata*), Wandering Glider (*Pantala flavescens*), Spot-winged Glider (*P. hymenaea*) are migratory



Spot-winged Glider (*Pantala hymenaea*); Eric Isley, iNaturalist



Black Saddlebags (*Tamea lacerata*); CASM



Wandering Glider (*Pantala flavescens*); CASM

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## Cruisers (Macromiidae)

Western River Cruiser (*Macromia magnifica*)

large; dark & yellow

long banded abdomen,  
side stripe on thorax

pearly gray eyes touch  
at seam on top of head



Western River Cruiser; Jim Johnson, iNaturalist

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## Emeralds (Corduliidae)

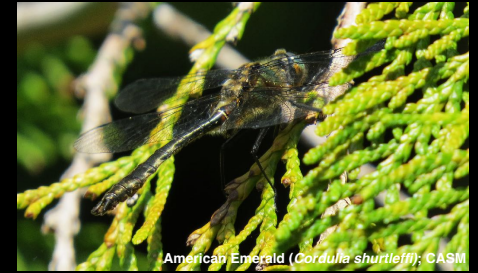
American Emerald (*Cordulia shurtleffi*)

very hairy thorax

metallic green & bronze

no stripes/spots  
on side of thorax

thin white ring around  
base of S3



American Emerald (*Cordulia shurtleffi*); CASM



American Emerald (*Cordulia shurtleffi*); CASM

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## Clubtails (Gomphidae)

Olive Clubtail (*Stylurus olivaceus*)

eyes small, blue, separated

olive face & thorax

dark shoulder stripe

flared dark abdomen;  
pale green "arrows"  
pointed towards tip



Olive Clubtail; Jim Johnson, iNaturalist

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Sinuous Snaketail  
(*Ophiogomphus occidentis*)

eyes small, dark grey,  
separated

greenish-yellow face

thorax pale green; wavy  
dark shoulder stripes  
separated by thin green  
line

flared black & yellow  
abdomen



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Spreadwings (Lestidae)

wings spread when perched

large; long leg spines

males pruinose, metallic above  
(*Lestes*)



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Damselflies: broad-winged,  
spreadwings, pond damsels



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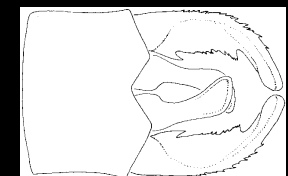
ID *Lestes* based on  
appendages, pruinosity

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*)

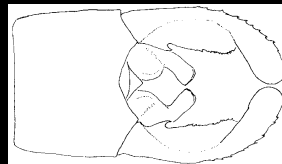
thorax brown & white

small dark spots under  
thorax

short paraprocts



Spotted Spreadwings (*Lestes congener*); CASM



Dragonflies & Damselflies of the West,  
Dennis Paulson

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Lyre-tipped Spreadwing  
(*L. unguiculatus*)

thorax with blue stripes,  
pruinose

bi-colored stigmas

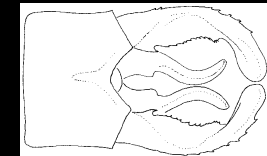
lyre-shaped paraprocts



Lyre-tipped Spreadwing male (*Lestes unguiculatus*); CASM



Lyre-tipped male; CASM



Dragonflies & Damselflies of the  
West, Dennis Paulson

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Pond Damsels (Coenagrionidae)

Dancers (*Argia*)

blue, lavender, black

bouncy flight

perch with wings  
above abdomen

long leg spines



Vivid Dancer female (*Argia vivida*); CASM



Vivid Dancer male (*Argia vivida*); CASM

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Bluets (*Enallagma*)

blue & black

S10 black on top

perch with wings along abdomen

shorter leg spines



Tule Bluets (*Enallagma carunculatum*);  
CASM



Northern/Boreal Bluet male (*Enallagma annexum/boreale*); CASM

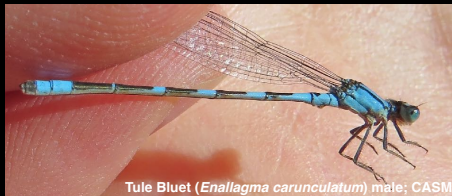
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## Bluets (*Enallagma*)

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



Tule Bluet (*Enallagma carunculatum*) male; CASM

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



Northern Bluet male (*Enallagma annexum*); CASM

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## Bluets (*Enallagma*)

Alkali Bluet (*E. clausum*):

- amount of black vs. blue increases towards tip of abdomen
- black stripe on top of S10
- more often in alkaline lakes but also in freshwater



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



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

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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*); CASM



Pacific Forktail female (*Ischnura cervula*); CASM

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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*); CASM



Pacific Forktail female (*Ischnura cervula*); CASM

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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



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Broad-winged Damselfs  
(Calopterygidae)

River Jewelwing  
(*Calopteryx aequabilis*)

broad, colored wings

wings not stalked,  
may lack stigma

metallic body



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## Monitoring Protocol

### DRAGONFLY & DAMSELFLY MONITORING

Protocol for Community-based Surveys



Common Green Darter pair (Ameletus junkei) laying eggs. Photo by CASM Environmental.

JCWC Dragonfly Monitoring Protocol 2022, CASM Environmental

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## Monitoring Protocol

### Timing

once every ~14 days  
during flight season

plan schedule  
with team



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When should you survey?

Time range	10:00 am - 4:00 pm			9:30 am - 4:30 pm	
	< 59°F (15°C)	59-65°F (15-18°C)	65-75°F (18-24°C)	>75°F (24°C)	>88°F (31°C)
Temperature					
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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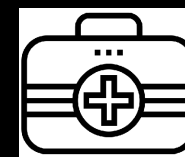
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Safety considerations:

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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Walk slow transect looking over water and in vegetation

perched, flying, mating, emerging, ovipositing adults



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pause and do visual scan at intervals

try to avoid double-counting

record abundance & behaviors on data sheet or in notebook

designated team member will enter all records into iNaturalist project



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relevant notes

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indicate if males (M)  
and/or females (F)  
were present in each  
species seen

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P (photo) = took  
photo; **best for  
confirmation!**

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A (abundant) =  $>100$



JCWC Dragonfly and Damselfly Community-based Monitoring Project Data Sheet

DATE \_\_\_\_\_ SITE NAME \_\_\_\_\_ START TIME \_\_\_\_\_ END TIME \_\_\_\_\_

OBSERVER NAME(S) \_\_\_\_\_

WEATHER: Temperature \_\_\_\_\_ °C / °F Wind (calm, light, moderate, strong) % cloud cover \_\_\_\_\_

Species List: Record the species observed; circle "M" and/or "F" to indicate whether males and/or females were present. Record all ID methods and reproductive stages observed using the appropriate letter codes, and indicate abundance stage after all counts are done.

Identification method (record all that apply)	Abundance category (record all that apply)	Reproductive stage (record all that apply)
V (visual)	U (uncommon, 1-4)	W (wheel)
C (captured)	F (frequent, 5-20)	TP (tandem pair)
P (photograph)	C (common, 21-100)	O (ovipositing)
	A (abundant, >100)	TA (teneral adult)

Species Name	ID Method	Reproductive stages	Abundance
	M F		
	M F		
	M F		
	M F		
	M F		
	M F		
	M F		
	M F		
	M F		
	M F		
	M F		
	M F		

NOTES:

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Reproductive stages:

W (wheel) = mating

TP (tandem pair) = male still holding female

O (ovipositing) = laying eggs

TA (teneral adult) = newly-emerged

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## Record data on iNaturalist project site

Dragonfly Surveys in Johnson Creek Watershed

Add Observations to This Project

Stats

Totals

1321 Observations »

31 Species »

47 People »

Most Observations

- zee-sm 438 observations
- dnewberry 91 observations
- philnosler 89 observations
- cbeckel 55 observations
- blcomegys 52 observations

Most Species

- zee-sm 25 species
- philnosler 22 species
- zvemp 21 species
- ddeck 19 species
- dnewberry 16 species

Most Observed Species

- Pacific Forktail 154 observations
- Tule Bluet 132 observations
- Cardinal Meadowhawk 106 observations
- Common Green Darner 102 observations
- Blue-eyed Darner 102 observations

<http://www.inaturalist.org/projects/dragonfly-surveys-in-johnson-creek-watershed>

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## How to use iNaturalist

go to [www.inaturalist.org](http://www.inaturalist.org) & register as a new user

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mouse over "Community" & select "Projects" from dropdown menu that appears

click "join" when project page appears

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Add An Observation to Dragonfly Surveys in J...

What did you see?

When did you see it?

Pacific Time (U.S. and Canada)  
 e.g. 2019-10-29 13:12:00

Notes

Where were you?  
 SW 43rd st, Gresham OR

Map Satellite  
 SW 42nd St  
 SW 43rd St  
 Kelley Creek

Media  
 Photos Sounds  
 Source: your hard drive  
 no files selected  
☐ Sync obs. w/ photo metadata?

upload photo files

enter common or scientific name (drop-down will appear) & date

enter location, select "search", and map will zoom to location; can also drag point manually

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Fields for Dragonfly Surveys in Johnson Creek Watershed

Observer(s) Name(s)

Site Name

Start time

End time

Temperature (F)

Wind movement  
 calm

Cloud Cover (%)

Notes

Species Name

Sex Class  
 Male

ID Method

Abundance Category  
 H (none, 0)

Reproductive Stage

More fields

Save observation Save and add another Cancel

data fields identical to project data sheet

enter different species observations for same location & date via "save and add another" button

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## REMEMBER: ONE DATE + ONE SPECIES = 1 RECORD REPORTED!!!!

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

genders and reproductive stages for each species seen are captured in the data fields for the observation

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 Searles Mazzacano

Reproductive Stage:  
 TA

Sex of specimen:  
 M, F

Start time: 15:22

Temperature (F): 67


Wind movement:  
 light

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Not sure of ID? iNaturalist crowd-sourcing lets other users confirm, correct, or comment

Blue-eyed Darner (*Rhionaeschna multicolor*) Research Grade



Activity

rcwilson suggested an ID Improving 8mo

Blue-eyed Darner  
*Rhionaeschna multicolor* Compare

jimjohnson suggested an ID 7mo

Blue-eyed Darner  
*Rhionaeschna multicolor*

zee-sm suggested an ID 7mo

Blue-eyed Darner  
*Rhionaeschna multicolor*

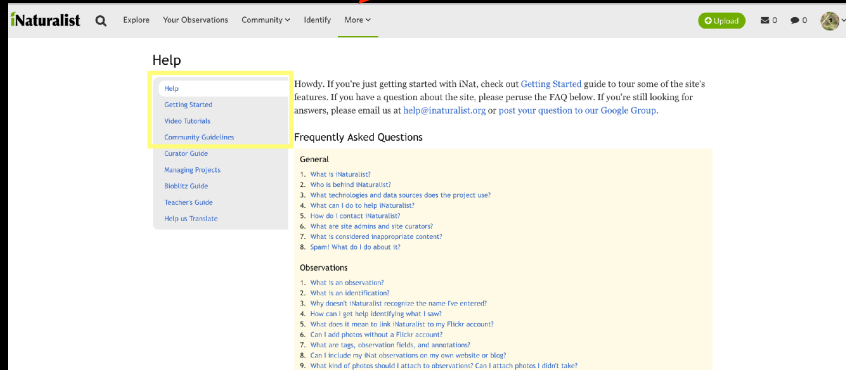
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Still confused? mouse over “More” at top of home screen and select “Help” to find FAQs, video tutorials, and more

“Help” option  
appears here



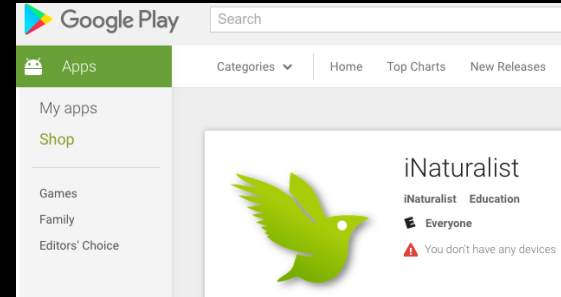
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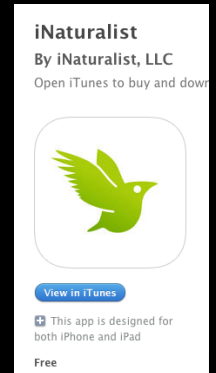
download free iNaturalist app for iOS or Android

log in to app with same username & PW  
and add JCWC Dragonfly Survey Project

upload photos and report observations in the field



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Have fun & learn!

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Questions?

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Cardinal Meadowhawks (*Sympetrum illotum*) ovipositing;CASM



Tule Bluets (*Enallagma cyathigerum*); CASM

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